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ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1951



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PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

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Edmonton
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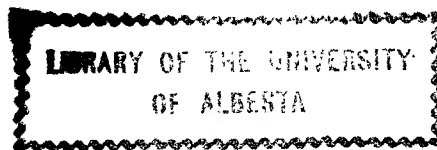


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To His Honour,

J. J. BOWLEN,

Lieutenant-Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1951.

I have the honour to be, Sir,

Your obedient servant,

D. A. URE,

Minister of Agriculture.

147034

DEPARTMENT OF AGRICULTURE 1951

HON. D. A. URE, Minister of Agriculture

MR. O. S. LONGMAN, Deputy Minister of Agriculture

HEADS OF BRANCHES

- A. M. Wilson, Field Crops Commissioner.
- W. H. T. Mead, Live Stock Commissioner.
- D. H. McCallum, Dairy Commissioner.
- F. J. Higginson, Acting Poultry Commissioner.
- W. G. leMaistre, Provincial Apiarist.
- J. Kokolsky, Fur Farm Supervisor.
- F. H. Newcombe, Director, Extension Service
- E. E. Ballantyne, V.S., Director, Veterinary Services.
- R. M. Putnam, Superintendent, Schools of Agriculture and Assistant Deputy Minister.
- N. N. Bentley, Principal, Vermilion School of Agriculture.
- C. E. Yauch, Principal, Olds School of Agriculture.
- J. E. Hawker, Principal, Fairview School of Agriculture
- G. S. Black, Supervisor, Junior Activities.
- P. D. Hargrave, Superintendent, Horticultural Station.

Report of the Deputy Minister

(O. S. Longman)

The Honourable D. A. Ure,
Minister of Agriculture.

Sir:

I have the honour to submit herewith the forty-fifth Annual Report of the Department of Agriculture for the year ending December 31st, 1951.

The report contains a detailed review of the nine Branches of your Department with the addition of the Report of the Surplus Wheat Board Money Trust.

Due to propitious and adverse weather conditions the year 1951 was characterized by high hopes and disappointments. Notwithstanding the adverse weather conditions, the income of the farmers attained a record high.

On Tuesday, July 17th, the Government of the Province, in the presence of a large audience seated in the Legislative Chamber, opened the Agricultural Hall of Fame. This action was motivated by a desire to honour appropriately those people who had made a notable contribution to Alberta agriculture. The recipients of the honour were:

Joseph H. Johnston, Edmonton (deceased).
Henry Wise Wood, Carstairs (deceased).
Frank Collicutt, Calgary.
Claude Gallinger, Edmonton.
Charles S. Noble, Nobleford.

The citations were read by the Honourable D. A. Ure, Minister of Agriculture, and the recipients were presented to the Honourable J. J. Bowlen, Lieutenant Governor of Alberta, and Premier E. C. Manning, following which the Premier unveiled the Tablet in the Hall of Fame.

The Field Crops Commissioner in his report has made reference to the transfer of coyote control from the Department of Lands and Forests to the Department of Agriculture, and it is now under the direct supervision of the Supervisor of Crop Protection and Pest Control within that Branch.

During the summer buildings were erected on the Forest Nursery Station located at Oliver, which consists of 83 acres. Some 169,000 trees or seedlings were planted, and in addition, 150,000 cuttings had been provided, all of which will be available for distribution at a future date.

In addition to the foregoing, the Field Crops Branch has undertaken the re-establishment and development of new headquarters and a Nursery Farm for the Horticultural Station east of Brooks. It is hoped to move the offices from the present location to the new headquarters during the coming summer.

The report of the Live Stock Commissioner reveals that, due to a keen demand from the United States throughout the year, a

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record high price for pure-bred and commercial live stock was maintained. An increase in the number of live stock upon farms and ranches has taken place, and it is also pointed out that the selling of cattle by auction is gaining in favour.

The Dairy Commissioner's Report reveals a decrease in cow population and milk production. However, it is gratifying to know that the quality of dairy cattle now in the Province is the best in its history. The average butterfat production exceeds for the first time 200 pounds per cow.

The Poultry Commissioner's Report reveals a very satisfactory condition for the poultry industry, the average price received for commodities being high. During the year the Provincial Poultry Plant has been remodelled and new equipment installed in order that the industry may be more adequately served by the Department.

The Director of Extension reports having a staff of 39 District Agriculturists and 3 assistants, and 14 District Home Economists, also the granting of the Master Farm Family Award to:

John G. Porozni Family, Willingdon.
J. W. Hosford Family, South Edmonton.
Floyd Gilkyson Family, La Glace.
Victor Watson Family, Airdrie.

The surveying and preparation of lands for the receiving of irrigation water in the St. Mary Milk River Development Project is reported as well under way and provision is being made for an extension of this service during the coming year.

The Director of Veterinary Services reports a total of 23 municipalities within the Province have been declared as T.B. Restricted Areas, and at the end of the year 52 Municipal Districts have been approved by the Government of Canada and are in readiness for testing. It is hoped that the coming year will see a large proportion of the latter declared as Restricted Areas. Seven municipalities are now operating as Brucellosis Restricted Areas. A growing demand by both the public and veterinarians is evident for the services rendered by the staff of the Veterinary Laboratory.

The Superintendent of Agricultural Schools reports the opening of a third School of Agriculture at Fairview with a very satisfactory enrollment. The opening of this school should make a definite contribution to the agricultural development of the Peace River country. The junior club activities directed by this Branch have experienced a very successful year and the members of the clubs have brought honour to the Province by winning national and international awards.

During the year the following retirements and resignations have taken place from the technical staff of the Department:

G. W. Carter—Instructor, School of Agriculture, Olds—Resigned.
G. R. Caverhill—Dietitian, School of Agriculture, Olds—Resigned.
M. M. Cross—Instructress, School of Agriculture, Olds—Resigned.
E. M. Curran—Instructress, School of Agriculture, Vermilion—Resigned.
D. R. Fraser—Fur Farm Supervisor, Edmonton—Resigned.
C. J. Harke—Laboratory Technician, Dairy Branch, Edmonton—Resigned.
P. W. Johnson—Liquidator, Agricultural Societies, Edmonton—Retired.
W. C. Kirk—Instructor, School of Agriculture, Vermilion—Resigned.
C. G. Mahaffey—Instructor, School of Agriculture, Vermilion—Resigned.
C. G. McBride—Inspector, Dairy Branch, Calgary—Resigned.
F. C. McIntyre—Instructress, School of Agriculture, Olds—Retired.
A. Moreau—District Home Economist, Wetaskiwin—Resigned.
A. Puchalik—Dietitian, School of Agriculture, Vermilion—Resigned.
D. R. Robertson—Supervisor of Apiary Inspection, Edmonton—Resigned.
G. A. Ross—District Agriculturist (Assistant), St. Paul—Resigned.

I should at this time like to express my sincere appreciation for the time and effort devoted by numerous colleagues toward assisting and advising your Department in the implementation of its policies and programmes. I wish particularly to thank those officials of the Dominion and other Departments of Agriculture, the Faculty of Agriculture of the University, Municipal Councils and their Service Boards, Chambers of Commerce, Advisory Committees and all others who have given freely of their time and energy in assisting the Department.

May I record for your entire staff sincere appreciation for loyalty and devotion to duty exhibited throughout the year in the performance of their duties.

Respectfully submitted,

O. S. LONGMAN,

Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Commissioner

J. E. Birdsall, Crop Improvement

G. R. Sterling, Soil Conservation and Weed Control

P. D. McCalla, Horticulture

W. Lobay, Crop Protection

P. D. Hargrave, Horticultural Station, Brooks

GENERAL

A combination of weather factors resulted in very heavy crops in almost every part of Alberta. There were prospects for a record bushelage and even yet, with up to 40% of the crop unthreshed, there is an even chance of bumper production. Late winter and early spring weather conditions will determine the quantity finally harvested.

The crop season was characterized by a late spring, a cool growing season and variations from normal precipitation in central and northern Alberta to almost double crop season rainfall in south-central and the western parts of the province. Southern Alberta not only had excessive rainfall, but soil was well supplied with moisture from the previous fall and heavy snow added more. These conditions prolonged the growing season and made harvesting practically impossible. Through east-central Alberta up to 40% of the 1950 crop had to be threshed or combined this spring before land could be seeded.

With many crops still immature a killing frost occurred on September 26th. Early in October heavy snows covered all southern and central Alberta. This storm was most severe from Olds to Stettler and south through Lethbridge to the U.S. border. Little, if any, harvesting had taken place in this section when the storm came. Feed supplies were scarce because farmers were reluctant to turn their stock into the snow-covered fields which, under normal conditions, would have provided early winter feed. Chinook winds cleared the fields in many southern districts in late November and combing and threshing were resumed. Only a small portion of the grain has, as yet, been harvested in some of these districts.

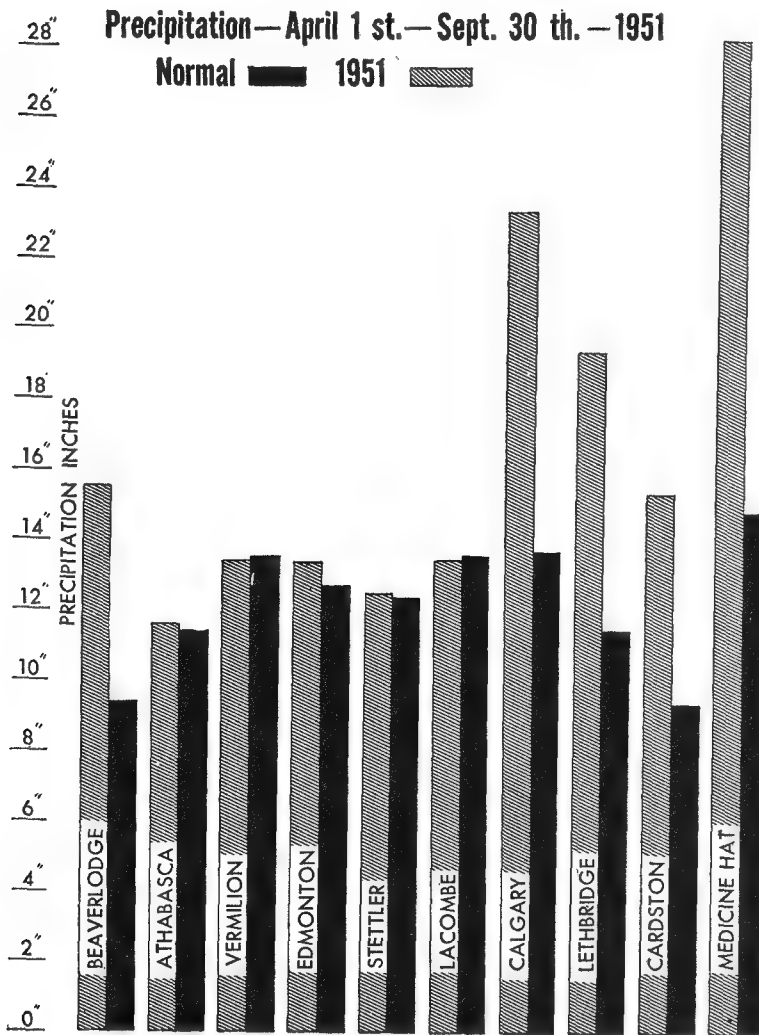
From Olds north to Edmonton 50% of the crop was harvested prior to the October storm. The remainder, except for about 10% which was stooked, threshed after the storm, remains in the field. Oat crops were particularly late in maturing, and more than half the crop is still under the snow. Due to more favourable weather, from 75% to 90% of the harvest was completed from Edmonton north and east except for a portion of the Peace River Block lying south of the river.

Quality of the grain was sharply reduced by severe frosts centering around October 27th in all parts of Alberta. Seventy percent of the wheat is expected to Grade 4 or lower. In addition, half of the grain as yet harvested was tough or damp. Large portions of this damp crop are in farm storage awaiting turn for

shipment to driers in terminal elevators. Farmers in all parts of the province are aware of the precarious condition of damp grain in their bins and have improvised all manner and means of preventing spoilage. A keen interest was shown in grain driers, and some farmers at least purchased machines and equipment for this purpose. Agricultural Engineers of the Department constructed a farm drier of the "Batch type" that proved reasonably successful in drying grain at the rate of 10 to 12 bushels per hour at an operating cost of 3c per bushel.

The following diagram provides a comparison of 1951 rainfall during the growing season with normal rainfall for the same period.

The acreage of wheat decreased approximately 12%. Oat and barley acreages increased by 8% and 19% respectively. This shift in acreage may be attributed to a late planting season which was more favourable to coarse grains. Furthermore, net returns from barley crops have been favourable. Flax, a crop which has never



remained in stable production and which occupies a relatively small acreage compared to grains, doubled in production. Price factor was the important reason for this increase.

The following table provides a comparison of acreages and estimated yields of the principal grain crops in 1951 with the year 1950.

	Acreage		Yield (bushels per acre)		
	1950	1951	1950	1951	Long-time Average
Wheat	7,251,000	6,364,000	16.1	23.6	17.1
Oats	2,455,000	2,639,000	29.3	46.6	32.0
Barley	2,534,000	3,011,000	22.1	34.9	24.5
Rye	312,000	320,000	11.8	19.1	12.4
Flax	48,300	109,000	8.3	11.0	8.0
Potatoes	28,300	24,200	150.00 cwt.	133.0 cwt.	82.0 cwt.
Hay and Clover	664,000	704,000	1.10 tons	1.60 tons	1.4 tons
Alfalfa	281,000	266,000	1.50	2.30	2.2
Sugar Beets	36,152	36,600	12.31	11.48	10.0

Grass and legume crops produced abundance of hay, but due to wet and dull weather a large quantity was stacked in fair to poor condition. Specialized crops of southern Alberta, including canning crops, sugar beets and potatoes were subject to excessive rain and early snow. The potato crop was a 70% loss due to continual wet weather followed by freezing temperatures which prevented digging. Sugar beets were harvested under similar conditions. A great deal of trouble was experienced in processing, yet yield returns to the grower will be almost normal. Approximately 10% of the beets remained unharvested. The later canning crops were severely damaged due to immaturity at the time killing frosts occurred in late September.

CROP IMPROVEMENT SERVICE

Use of Forage Crop Seed by Alberta Farmers

The following is a summary of forage seed sales by the seed trade to Alberta farmers for the years 1950 and 1951:

	1950 (lbs.)	1951 (lbs.)
Alfalfa	260,000	389,000
Alsike	70,000	160,000
Red Clover (Altaswede)	75,000	79,000
Sweet Clover	600,000	703,000
Brome	300,000	655,000
Creeping Red Fescue	75,000	140,000
Crested Wheat Grass	50,000	147,000
Timothy	90,000	110,000
Mixtures	100,000	125,000
	1,620,000	2,508,000

The continued increase in quantities used indicates a growing appreciation of the value of these crops in a stable agriculture. In addition to the quantities purchased by farmers, large quantities of home grown seed were used. With adequate soil moisture in most districts, farmers obtained good catches, and so may be encouraged to continue the expansion of their forage crop acreages.

Crop Improvement Demonstration Policy

This policy was revised in 1951. The weed control and soil conservation project was transferred to a new policy established in that division. This policy is used by District Agriculturists to establish better crop and cropping practice demonstrations. Approximately 80 Field Days were held by District Agriculturists

using the plots and fields established, and over 8,000 farmers viewed them.

Project A: Forage Crop Seed Production

This project was used to encourage and demonstrate pure seed production of grasses and legumes in areas to which they are suited. In addition to its general usefulness for demonstration purposes, this project is used to good effect when it is considered advisable to introduce a new variety or crop into a district. A total of 70 applications were received from 21 District Agriculturists. The following distribution of seed was made:

	Quantity Distributed (lbs.)
Grim Alfalfa	2,430
Alsike	150
Creeping Red Fescue	444
Brome	100
Crested Wheat	150
Reed Canary Grass	8
Total	3,282

Project B: Pasture Improvement

This project was used to provide a means of demonstrating the value of improved pasture mixtures and pasture management practices. A total of 192 applications were received from farmers in 27 District Agriculturists' territories. The following quantities of seed were used:

	Pounds		Pounds
Alfalfa	4,199	Alsike	725
Brome	7,846	Altaswede	359
Timothy	361	White Dutch Clover	10
Crested Wheat	1,325	Orchard Grass	80
Sweet Clover	781	Reed Canary	119
Creeping Red Fescue	2,703	Alsike-Timothy Mixture	105
Kentucky Blue Grass	83	Alfalfa-Sweet Clover Mixture	30
Red Top	227		
		Total	18,953

In addition, fertilizer was supplied to eight applicants who had established pastures under the project. The following quantities were used:

Ammonium Phosphate 11-48	500 lbs.
Ammonium Phosphate 16-20	1,400 lbs.
Ammonium Sulphate	200 lbs.

Project C: Balanced Farming

The object of this project is to encourage farmers to adopt a system in which there is a proper balance between grain and forage crops. Applications were accepted from farmers who had established rotations using enough forage crops to maintain the fibre and fertility of the soil. Assistance by way of providing forage seed was given in the second year of the rotation at a discount of 25% for a maximum of one-sixth of the acreage to be included in the rotation, but for not more than 25 acres. Nine applications were received and 1,990 pounds of forage seed were used.

Project D: Field Demonstrations—Crops and Fertilizers

This project is designed to demonstrate the value of different kinds and varieties of field crops and in some instances the value of fertilizers on crops. Seed and fertilizers were supplied direct to District Agriculturists without cost. Quantities allocated to each District Agriculturist were limited. Fifteen District Agriculturists used the project. The following quantities of seed and fertilizer were distributed:

	Pounds		Pounds
Alfalfa	380	Reed Canary Grass	10
Brome	235	Timothy	20
Creeping Red Fescue	180	Orchard Grass	1½
Crested Wheat	135	Ladino Clover	1
Sweet Clover	80		
Altaswede	85	Total seed, pounds	1,227½
Alsike	100		
Amonium Phosphate 11-48		2,750 lbs.	
Ammonium Phosphate 16-20		1,500 lbs.	
Ammonium Sulphate		700 lbs.	
Total fertilizer		4,950 lbs.	

Project E: Crop Variety Demonstration Plots

This project was used by District Agriculturists to establish cereal and forage crop community demonstrations as a community project. A number of field days were held at the plots. Seed and fertilizer for 73 demonstrations were provided to 24 District Agriculturists.

Forage Crop Seed Production

The year 1951 was very satisfactory for grass seed production, but very unfavourable for legume seed crops. Brome and creeping red fescue produced well and were harvested in good condition. Legumes, particularly alfalfa, set seed poorly and a great deal of the seed that was produced was either not harvested or not threshed when winter set in. Much of the legume seed that was harvested was of poor quality because of late maturity, frost and weathering. The following figures give the estimated seed production in Alberta for the most important forage crops in the years 1946 to 1951 inclusive:

	1946	1947	1948	1949	1950	1951
Alfalfa	3,500,000	2,500,000	9,600,000	3,500,000	7,000,000	1,580,000
Sweet Clover	5,000,000	6,000,000	12,960,000	8,000,000	12,000,000	5,400,000
Red Clover	850,000	1,500,000	6,000,000	2,000,000	800,000	720,000
Alsike	1,000,000	2,000,000	6,500,000	2,000,000	1,200,000	1,500,000
Timothy	750,000	150,000	200,000	140,000	150,000	120,000
Crested Wheat	100,000	50,000	60,000	60,000	200,000	300,000
Brome	4,500,000	4,000,000	4,000,000	2,000,000	6,000,000	7,500,000
Creeping Red Fescue	250,000	500,000	1,400,000	1,000,000	250,000	2,000,000

Marketing facilities continued to improve, with the Alberta Seed Growers' Co-op. and the larger seed companies establishing additional warehouse facilities in the seed growing areas. The Co-operative continued its policy of establishing District Superintendents in the main seed growing areas by appointing a Superintendent for the Bonnyville district.

Production and Sale of Registered Seed

The following table is a summary of estimated yields of cereals and flax inspected for registration and certification from 1946 to 1951 inclusive:

	Estimated Yield (bus.)			Estimated Viable Seed (bus.)		
	1946	1947	1948	1949	1950	1951
Wheat	44,259	1,111,669	2,349,000	1,153,736	700,000	100,000
Oats	1,173,039	1,719,424	2,250,000	702,384	764,000	868,150
Barley	232,524	392,389	788,000	215,988	309,000	300,000
Flax	26,273	58,551	175,000	12,000	26,000	56,800

These production figures, with the exception of wheat, are still in excess of the normal distribution of registered seed in the province. However, a large proportion of it is likely to be sold as commercial seed. Acreages of field inspected grasses and legumes from 1948 to 1951 are summarized in the following table:

	Registered (Acres)				Certified (Acres)			
	1948	1949	1950	1951	1948	1949	1950	1951
Alfalfa	10,888	9,640	9,351	7,256	555	502	651	659
Brome	186	175	294	89	10,861	6,234	15,976	21,775
Creeping Red Fescue	317	86	79	53	5,810	5,249	3,136	6,477
Crested Wheat		20	76	36	110	115	158	278
Red Clover (Altaswede)	263	251	356	215	237	288	57	157
Sweet Clover	130	55	12	392	758	92	720	954

Registered forage seed acreage has never reached a high level since, with the exception of Grimm alfalfa, foundation, elite or approved seed must be used in order to produce registered. Furthermore, the demand is not great enough to ensure premiums commensurate with the extra care required.

The acreage increases of certified brome and creeping red fescue are no doubt a response to strong demand. Certified sweet clover acreage has been increased as a result of efforts on the part of the seed trade and the Department to increase production of sweet clover that is of uniform blossom color.

The Alberta Crop Improvement Association

This Association has concerned itself primarily with the problem of encouraging the wider use of registered and certified cereal grains for the purpose of maintaining or improving the quality of commercial crops. Through the co-operation of grain companies and the Alberta Seed Growers' Co-operative, arrangements were made whereby elevator agents were authorized to accept farmers' orders for registered and certified seed grain. Seed stocks were in most cases ample and practically all orders were filled. The Association is directed by a committee which represents the North-West Line Elevators Association; the farmer-owned elevator companies; the Production and Experimental Farms Services, Canada Department of Agriculture; the Alberta Seed Growers' Co-operative; the Canadian Seed Growers' Association, Alberta Branch; the University of Alberta and the Alberta Department of Agriculture. Registered and certified seed grain marketed through the Alberta Crop Improvement Association in 1951, and a comparison with previous years, is given below:

	1943	1944	1945	1946	1947	1948	1949	1950	1951
Wheat	3,000	9,232	20,014	23,728	35,179	45,279	32,951	38,623	24,445
Oats	10,500	16,001	11,670	26,560	35,235	43,462	34,398	47,227	46,216
Barley	2,500	6,579	2,450	15,492	23,972	19,616	14,860	14,082	18,464
Flax		1,215	328	1,194	11,321	10,419	329	820	2,411
Rye				208	346	105	59	186	
	16,000	33,037	34,462	67,182	106,053	118,881	82,597	100,938	91,536

A great deal of credit is due grain companies and elevator agents for the success of this method of seed distribution. The co-operation of experienced growers in having seed cleaned, sacked and sealed, and in filling orders promptly, is also an important factor in the plan. It should be noted, too, that farmers who marketed grain as seed did not receive participation certificates, and so will not benefit by additional payments made by the Wheat Board.

The Canadian Seed Growers' Association (Alberta Branch)

Regional branches of the Canadian Seed Growers' Association have as their main function the dissemination of information relative to seed growing. They also endeavour to make farmers better-seed conscious and by so doing improve the quality of crops produced. The work done by the Branch is largely a co-operative

effort with the Field Crops Branch, the Supervisor of Crop Improvement serving as Secretary of the growers' organization.

1—Annual Meeting and Growers' Schools

Successful Elite Growers' Schools, with attendance of about 50 at each point, were held at Beaverlodge and Edmonton. A Registered Growers' School, with an attendance of about 80, was held at Fairview's new School of Agriculture. This undertaking was carried out in co-operation with the Beaverlodge Experimental Station, who held their Illustration Field Day in conjunction with the Growers' School.

The Annual Meeting of the Branch was held at Edmonton following the Elite Growers' School, and was attended by about 50 growers.

These functions are serving a useful purpose in developing a better informed group of seed growers. This is important, since they are the people who provide the seed stocks with which the rank and file of Alberta farmers maintain the purity of their crops.

2—Information, Publicity and Finances

Six circular letters were prepared and mailed to growers of registered and certified seed grain during the year. Publications having to do with registered and certified seed were made available to growers on request.

A "Better Seed Week" programme was conducted over a five week period, culminating in the fifth week with a tremendous amount of publicity having to do with good seed. Spot announcements were broadcast over all Alberta stations during the period of the campaign, and in addition radio stations gave wide publicity to the importance of good seed on farm broadcasts and other programmes. Several articles dealing with good seed were supplied to weekly newspapers, radio stations, District Agriculturists, farm papers and other outlets. Grain companies and other grain and seed handling organizations assisted by using the theme "Good Seed for Better Crops" in their advertisements and in devoting some of their advertising to good seed. Sixty-five thousand copies of a small four-page circular containing information with regard to good seed, seed drill surveys, sources of seed, etc., were printed. These were distributed through District Agriculturists; Agricultural Service Boards in Municipalities; seed handling organizations and the Field Crops office. Excellent co-operation was received from everyone concerned.

The Canadian Seed Growers' film, "The Sower Went Forth", was used to a considerable extent at meetings where seed production was emphasized, particularly at Junior Club functions. It was also shown to the students at the Schools of Agriculture.

The two dollar membership fee put into effect in 1947 was again collected for the Branch by the central office of the C.S.G.A. at Ottawa. Seven hundred and fifty-three members paid the fee.

3—C.S.G.A. Membership

Membership in the Canadian Seed Growers' Association, which rose steadily from 1943 to 1948, dropped sharply in 1949, and showed a further drop in 1950. The following table gives total

membership of the C.S.G.A. for Canada and Alberta for the years 1940 to 1950 inclusive:

Year	Alberta	Canada	Alberta in % of Canada
1940	349	3,491	10.0
1941	315	3,035	10.4
1942	274	2,637	10.4
1943	244	2,523	9.7
1944	340	2,586	13.1
1945	522	2,731	19.1
1946	756	3,402	22.2
1947	1,694	4,670	36.3
1948	2,073	5,894	35.2
1949	1,107	4,058	27.3
1950	871	3,689	23.6

Figures for 1951 membership were not available, but a smaller reduction than in the previous two years appeared likely.

The Alberta Varietal Zonation Committee

This is an advisory committee to the Provincial Seed Board. Its purpose is to co-ordinate the findings of the various experimental agencies in the province with respect to grain varieties, and to recommend those best suited to the various soil climatic zones. The committee is composed of representatives of the following: Departments of Plant Science and Soils, University of Alberta; Canada Experimental Farms, Science and Production Services, and the Provincial Field Crops Branch. The annual meeting of the Committee was held in December, with few change in recommendations being made. The only new variety to be recommended was Harlan, a rough-awned, 6-rowed feed barley for irrigated areas. Newal and Trebi were dropped from the list of varieties recommended for those areas, leaving Titan and Harlan. Vantage barley, which was recommended for the first time in 1951, showed further popularity by being added to the recommended list for the Peace River area. Victory oats were removed from the recommended list in two sub-zones. The complete list of recommended varieties was as follows:

Wheat:

Hard Spring—Saunders, Thatcher and Rescue.
Hard Winter—Kharkov and Yogo.
Soft White Spring—Lemhi.

Oats: Ajax, Beaver, Eagle, Larain and Victory.

Barley:

Malting—Olli and Montcalm.
Feed—Campana, Harlan, Newal, Olli, Montcalm, Titan and Vantage.

Rye: Prolific Spring and Dakold Fall.

The recommendations of the Committee were prepared for printing in bulletin form by the Field Crops Branch to be distributed throughout the province.

Forage Crops Advisory Committee

A forage crops advisory committee was organized at a meeting held at the University of Alberta in December. The committee will serve to co-ordinate results of forage crops research and experimental work in the province. Membership of the committee will consist of representatives from the Departments of Plant Science and Soils, University of Alberta; each of the Canada Experimental Farms in the province; the Canada Plant Products Division; the Field Crops Branch, Alberta Department of Agriculture; the Alberta Seed Growers' Co-op. and the seed trade. The

first task undertaken by the committee was the preparation of a circular dealing with hay and pasture crops. This is to be based on the Alberta Department of Agriculture, Circular 63, and is to be released as early as possible in 1952.

Potato Production

It is estimated that 24,200 acres were planted to potatoes. This was a 4,000 acre decrease from that of 1950. The reduced acreage was the result of large yields and low prices in 1950. However, a good crop was produced, and potatoes would have been plentiful had not approximately 70% of them been frozen in the ground.

Seed Potato Production

Most seed growers succeeded in harvesting their crops. The following is a 4-year summary relative to seed potato production:

	1948	1949	1950	1951
No. of Seed Growers	95	99	156	114
No. of Fields Inspected		182	293	212
Acres Inspected for Certification	781	1,005	1,684	975
No. of Fields receiving Certificates		148	247	183

Potato Fertilizer Trials

In order to obtain information with respect to use of fertilizers on potatoes, tests were conducted on four farms in the Edmonton area as well as one test at each of three other points: Peers, Edson and Claresholm. Results were made available to the Fertilizer Committee. The recommendation of that body was that all available data be assembled for its 1952 meeting and that the tests be continued and expanded, if possible.

Commercial Potato Inspection

In co-operation with the Canada Department of Agriculture, 7 inspectors were employed to enforce the Vegetable Sales (Alberta) Act, three at Lethbridge; two at Calgary; one at Brooks and one at Edmonton. Late in the year, potato inspection at retail levels was undertaken, with poultry and honey inspectors assisting the fruit and vegetable inspectors. This is a first step towards unifying the inspection system so that each inspector will deal with several different products, thereby increasing the amount of work that can be done. While only two months' results were available from the inspection work at retail level, there was every indication that it would result in customers being able to buy with greater confidence since potatoes being offered for sale were being graded and labelled properly.

Tuber Indexing of Foundation Seed

The service of indexing foundation and seed potatoes was continued jointly by the Field Crops Branch, the Department of Plant Science, University of Alberta, and the Federal Seed Potato Certification Service. One thousand and ninety-eight tubers were grown during the winter in greenhouses and disease readings made on them by a competent pathologist. Of the tubers tested, 754 or 68.7% qualified as suitable for production of indexed foundation stock.

Oceanside and Seed Potato Tests

For the fifth consecutive year the Department arranged for land at Oceanside, California, on which growers' seed was tested.

Alberta samples were relatively free of all major diseases. Since they were outstanding in the tests, interest was shown by United States buyers and some sales were made. In the fall, eight samples were again submitted for testing, the small number being largely accounted for by the unfavourable harvesting conditions. Growers paid a \$5.00 fee for this service, with the Department assuming transportation and other costs.

Production of Specialty Crops

Soft White Spring Wheat

The total acreage of this crop, which is used for making pastry flour, was approximately 23,000 acres. It was not all harvested in the fall, but that which was yielded about 35 bushels per acre on the average. It was all confined to irrigated areas and was grown under contract with milling companies. The variety "Lemhi", since it has the desired low protein content, when grown under irrigation, and is desirable in other respects, is the only variety being grown.

Mustard Seed

Approximately 34,000 acres of mustard seed were contracted. Most of this was grown on irrigated land but a small acreage was on dry land. This was a great increase from the 1950 acreage of 13,000. The crop although not all harvested yielded approximately 400 lbs. per acre. Yields were as high as 1,400 lbs. in some instances. Growers received 8 cents per lb. for yellow mustard and 6 cents for brown. Since brown usually outyields yellow the returns per acre would be almost the same. In 1949 only yellow mustard was grown and the price was 5½ cents per lb.

Assistance to Settlers on Land Clearing and Breaking Projects

Veteran settlers on new land in the Peace River area were given advice with regard to the use of clean seed, and were assisted under the Crop Improvement Demonstration Policy to the greatest extent possible. This was done in order that a clean-seed consciousness and an appreciation of the value of forage crops can be developed in these new areas in order to avoid difficulties arising from weed infestations and reduced soil fertility. Under the Agricultural Relief Advances Act the following quantities of seed grain were supplied to necessitous settlers:

Beaver Oats	1,618 bushels
Olli Barley	1,349 bushels
Saunders Wheat	694 bushels

International Seed Shows

Since the value of international shows as show windows for farm products is recognized, the Department has for many years given assistance to exhibitors in the seed classes at the Royal Agricultural Winter Fair, Toronto, and the International Grain and Hay Show, Chicago. Exhibits were assembled and shipped to the shows by the Field Crops Branch, with shipping costs both ways being paid by the Branch. In addition, supervision of the exhibits at the shows was given by a representative of the Branch, and in 1951, special premiums were paid as follows: All prize monies were duplicated in connection with the International and were increased by 50% in connection with the Royal. A special honorarium of \$25.00 for each first prize in the classes for hard

red spring wheat, white oats, 6-rowed barley, rye, flax, alfalfa, alsike, red clover, sweet clover, brome, creeping red fescue and russet (Netted Gem) seed potatoes was paid in connection with the Royal. A similar honorarium was paid for the same classes at the International, with the addition of timothy and crested wheat grass and the deletion of the potato class. Such honoraria were increased to \$100.00 for championships won with hard red spring wheat, white oats, 6-rowed barley and rye at both shows.

Winners of first prizes and championships were as follows:

Royal Agricultural Winter Fair

Championships:

Wheat	Howard Roppel	Rockyford—Marquis
Oats	Matt B. Schnurer	Sanguo—Victory
Barley	Thos. E. Brown	Cassils—Compana

Reserve Championships:

Wheat	S. J. Allsop	Red Deer—Reward
Oats	Gordon S. Moyer	Elmworth—Victory
Barley	Harry V. Holt	Peace River—Newal
Rye	Chris Morck	Dickson—Pitcus
Grass	R. Goodall	Coronation—Brome

First Prizes:

Alsike Clover	E. W. Coxie	Grande Prairie
Sweet Clover	E. A. Levens	Spirit River
Oats, Early Maturing	Stainor Valli	Sylvan Lake—Larain
Oats, White Early (Junior Class)	Gunder Sveinungaard	Belloy—Larain
Oats, Medium to Late (Junior Class)	Henry D. Unruh	Vauxhall—Victory

In addition, 7 second place awards and 32 other awards were won by Alberta exhibitors.

International Grain and Hay Show

Championships:

Oats	Gordon S. Moyer	Elmworth—Victory
Barley	Harry V. Holt	Peace River—Newal

First Prizes:

Wheat, Hard Red Spring	S. J. Allsop	Red Deer—Reward
Alsike Clover	E. W. Coxie	Grande Prairie
Sweet Clover	E. A. Levens	Spirit River

In addition, 6 second place awards, 5 third place awards and 40 other awards were won by Alberta exhibitors.

Seed Drill Surveys

Seed drill surveys were conducted in several Municipal Districts in 1949, 1950 and 1951, to determine the purity and quality of seed being sown. Seed samples were taken by Field Supervisors, Weed Inspectors and District Agriculturists direct from farmers' seed drills at seeding time. The following is a summary of seed grades obtained on the samples taken:

Year	No. of Districts	No. of Samples	No. 1 Seed	No. 2 Seed	No. 3 Seed	Rejected
1949	23	1,939	21½%	10%	17½%	51%
1950	12	835	32%	9%	19%	40%
1951	9	630	26%	17%	17½%	39½%

Germination tests on the samples taken in four Municipal Districts in 1949 and on all samples taken in 1951 revealed that a surprisingly large number of farmers sow seed that is low in germination. Information obtained from farmers also showed that about half of the seed grain sown is either treated with formalin, which is not a recommended fungicide, or is not treated at all.

Results of the 1949 survey were published in a circular form and were widely publicized through press, radio and farmers' meetings. The results given in the table above suggest some improvement as a result of this publicity. However, there is still a great deal of room for improvement and so the three years' results have been prepared for publication. This information will be used in future campaigns in the interests of good seed.

SOIL CONSERVATION AND WEED CONTROL

Weed Control

Good growing conditions in 1951 made it possible for crops to compete well with weeds. In many instances the crop got a head start and held the weeds in check throughout the season. However, weed control on summerfallow was difficult. In the south the first summerfallow operation was not possible until August. Excessive moisture hindered cultivation until freeze-up. Timely cultivations, so necessary for effective weed control, could not be carried out. Many fields were not sprayed with weed-killing chemicals because the soil was too wet to carry implements of any kind.

Chemical Weed Control

Alberta farmers treated 2,317,000 acres with 2,4-D for weed control during 1951. This represents approximately 79% of the 2,904,000 acres treated in 1950. Of the total treated in 1950, 697,000 acres were dusted, the balance being applied as a spray. The good growing conditions which prevailed made it possible to get good results with this chemical but its use was curtailed by wet field conditions. A report of demonstrations with 2,4-D on Tartary Buckwheat is given under "Weed Control Demonstrations."

The policy of distributing Sodium Chlorate at cost to Municipalities was continued. Most of the Chlorate was used on weeds resistant to 2,4-D such as Toad Flax, smaller amounts being used to eradicate small patches of other weeds. Quantities distributed (in pounds) in each of the last 5 years were: 1947—100,000; 1948—137,000; 1949—180,500; 1950—207,940; 1951—290,000.

Weed Survey:

The Field Crops Branch continued to co-operate with the Science Service, Canada Department of Agriculture, Ottawa, in conducting weed surveys. Two projects were completed during 1951 by Mr. Vance Molsberry, staff member of Olds School of Agriculture.

The occurrence of Green Foxtail (*Sataria Viridis*) was studied in the east-central part of the province. The following Municipalities were included in the survey: Lamont, Eagle, Vermilion River, Minburn, Beaver, Flagstaff, Camrose and Ponoka. The map at the end of this report shows the areas and degree of infestations.

While this weed has been present in the area for some time it was not a problem until the dry years of 1948, 1949 and 1950 during which time it spread considerably.

The Municipal Districts of Ponoka and Wainwright were also surveyed for the presence of Toad Flax. Time did not permit a survey of each farm in the Municipal District of Ponoka therefore a random sampling method was adopted. Mr. Molsberry travelled the east-west roads and examined farms every two miles. He checked 78 farms and found Toad Flax on 42. He estimated that 50% of the farms in the Municipal District of Ponoka had some Toad Flax on them. Most of the patches varied from 5 to 30 feet in diameter. Many of the farmers contacted did not know the weed nor its potential dangers.

Two large areas in the Municipal District of Wainwright were found to be infested. The one area involved twelve townships,

12 miles in width, along the eastern end of the Municipal District. The other area consisted of one township located six miles east of Wainwright. It was found that farmers in this Municipal District know the weed and were fighting it.

Weed Control Demonstrations

Five year demonstration programs for the control of Tartary Buckwheat were established at Royal Park and Stony Plain. Each calls for cultural and chemical control methods, and seeding down to a forage crop which shall be harvested as hay. In 1951, 2,4-D at both points gave significant reduction in the yield of Tartary Buckwheat seed. Cultural methods and use of forage crops to control this weed will be demonstrated in succeeding years.

The Fields Crop Branch co-operating with the National Grain Company established a 2,4-D demonstration plot east of Edmonton. Rates of 6 ounces acid per acre or more reduced the Tartary Buckwheat.

Polybor Chlorate and Borascu demonstration plots were established in the fall of 1950 as follows: Edmonton (2), Camrose (2), Wetaskiwin (2), Balzac (1), Dalroy (1), Calgary (1), Cardston (3), and Raley (1). These were inspected throughout 1951. Good control on Toad Flax (*Linaria vulgaris*) was obtained at Camrose, Wetaskiwin and Balzac. It was killed at Edmonton but annual growth on the treated area was heavy. Field Bindweed (*Convolvulus arvensis*), Leafy Spurge (*Euphorbia esula*), Russian Knapweed (*Centaurea repens*), Hoary Cresses (*Cardaria draba*, *Cardaria draba* var, *repens* and *Cardaria pubescens* var, *elongata*) were satisfactorily controlled. Several weed inspectors preferred these non-flammable products to Sodium Chlorate.

Crown Lands:

Weeds on Crown Lands continued to be a problem for some Weed Inspectors working in recently settled areas. The policy of supplying forage seed for weed infested Crown lands was continued. The infested area had to be properly leased from the Department of Lands and Forests and the seed bed prepared to the satisfaction of the District Agriculturist before forage seed was supplied. Many infestations have been removed from lake shores in north-eastern Alberta as the result of this policy operating since 1949. A total of 535 pounds of forage seeds was supplied under this policy.

The Branch continued to supply 2,4-D for treatment of weeds on Crown lands. The chemical was supplied if the weeds were a menace to nearby farmers and provided the farmer concerned was prepared to apply the chemical.

Roadside Seeding

The Field Crops Branch co-operated with the Department of Public Works to seed grass on 341 miles of Government highways. Wet weather hindered the 1951 fall seeding program. A total of 20,377 pounds of forage seed was required. Highways seeded down either in 1949 or 1950 and observed during 1951 showed the soundness of this program both from the aesthetic value and the weed control standpoint.

The policy of supplying grass seed for 20 miles of road per Municipal District as a demonstration to encourage roadside seeding was continued. A total of 16,310 pounds of forage seed was used for this purpose.

Agricultural Service Boards

The Municipal District of Lac Ste. Anne formed an Agricultural Service Board in July, 1951 making a total of 30 Boards in operation. Each Board had a full-time Field Supervisor and a total of 38 assistants worked in the 30 Municipal Districts with Boards. Some Municipal Districts had only the Supervisor while others had as high as seven assistants during the summer months. Thirty parcels of land were placed under supervision and two under reclamation during 1951 in accordance with the authority given by the Agricultural Service Board Act.

The Agricultural Service Board at Vermilion River continued to combat Toad Flax in the "Special Area for the control of Toad Flax." This area was established in the fall of 1950, but 1951 was the first active year of the campaign. The area includes that part of Township 45 north of the Battle River, Townships 46 and 47 in Ranges 1, 2 and 3, West of the 4th. All the farmers in the area voluntarily entered into agreements with the Board. They have agreed to use Sodium Chlorate on small areas where it was practicable and within the size limit recommended by the Board. Cultural practices are mutually agreed upon for areas too large for Sodium Chlorate. A total of 608 drums, of 112 pounds each, were used for the program. Under special agreement the Department assisted the Municipality with this program. The short supply of Sodium Chlorate during the summer limited the program somewhat but progress was good nevertheless.

Field Staff and Other Services

The Field Crops Branch had 17 Inspectors administering the Noxious Weed Act in Improvement Districts. Fieldmen were stationed at St. Paul, Edmonton, Lethbridge and Medicine Hat to assist Weed Inspectors in Improvement Districts and Municipalities. The total summer field force of 150 men was made up as follows: Thirty Field Supervisors, 54 Assistants to Field Supervisors, 4 Weed Fieldmen, 17 Weed Inspectors in Improvement Districts and 51 Weed Inspectors in Municipalities without Service Boards.

Meetings to assist Weed Inspectors with their work were held at Spirit River, Lethbridge, Lac La Biche and Edmonton.

Regional meetings of Field Supervisors and District Agriculturists were held at Vegreville, Edmonton, Calgary and Falher. Supervisors, District Agriculturists and Municipal District Councilors were given an opportunity to study Service Board problems at the annual Agricultural Service Board Conferences held in June, 1951.

Weed Seed Screenings

Regulations were drafted under the Noxious Weed Act to prevent the movement of weed seed screenings unless a permit is obtained from the Weed Inspectors for the area or from the Field Crops Commissioner. These regulations were designed to give Field Supervisors and Weed Inspectors control of where and when screenings will be fed, and thus endeavor to prevent new weed infestations from this source.

Fertilizers

The Alberta Advisory Fertilizer Committee appointed by the Minister of Agriculture continued to study the results of fertilizers

on all crops. This committee consists of members from the Experimental Farms at Lethbridge, Lacombe and Beaverlodge; the Soils Department, University of Alberta; Commercial Fertilizer Companies and the Alberta Department of Agriculture.

The Branch assisted with the co-operative fertilizer trials by seeding and harvesting four of the trials.

The Committee reported profitable returns from fertilizer on grain crops in all areas of the Province except the brown soil zone. Fifty pounds per acre of 11-48-0 gave better results than the 25 pound rate. Recommended fertilizer practices profitably increased hay yields on the grey wooded soils.

Use of cyanamide and other nitrogenous fertilizers on heavy stubble and combine straw to promote rapid decomposition was studied and will be continued in 1952. The results obtained to date are not conclusive enough to make definite recommendations.

Reports on experiments concerning liquid fertilizer treatment of seed grain were received from various parts of the province. Again this year all results were negative, and the following resolution was presented and approved by the Committee: "Inasmuch as liquid fertilizers for seed treatment of grain have been extensively tested and have not produced yield increases in Alberta, this Committee recommends that farmers be strongly advised not to use liquid fertilizer for the treatment of seed grains."

The bulletin, "Fertilizers in Alberta" was revised by the Provincial Advisory Fertilizer Committee. These were distributed by the Extension Branch.

Bulletins, Farm Notes and Radio Talks, Etc.

Leaflets on the control of Toad Flax, Hoary Cress, Leafy Spurge and a "Wall Sheet" on the five bad weeds and Chemical Weed Control were printed and distributed. Sixteen articles were prepared for farm notes and four radio talks were given.

Soil Conservation

Soil drifting occurred in the Edmonton and in the north-central and eastern parts of the province again in the spring of 1951. The wind dried out a few inches of top soil and in spite of adequate moisture conditions most of the black trashless summerfallows moved. Drift soil 4 to 5 feet high and up to 30 feet wide piled up in the fence line on a farm just a few miles north-east of Edmonton. Agricultural Service Boards in the area mentioned, featured soil conservation measures at Agricultural Extension meetings. Demonstrations using blade type cultivators were held.

Water erosion took place on many farms. It was not extensive yet it indicated a lack of soil fibre.

The Branch prepared and distributed, through municipalities, 30,000 leaflets entitled, "Save the Soil." This leaflet briefly outlined soil conservation practices.

In 1951, Project C "Soil Conservation and Weed Control with Forage Crops" of the Crop Improvement Demonstration Policy was changed to "Policy for Soil Reclamation with Forage Crops." The policy has two projects. Under Project 1—"Soil Conservation and Weed Control with Forage Crops, Cereals and Fertilizers," the cost of forage seed, cereals and fertilizer is shared equally with the applicant. Ten District Agriculturists used the project to

establish 31 demonstrations. The following amounts of seeds were used:

Alfalfa	840	Timothy	20
Altaswede	55	Reed Canary	20
Alsike	70	Red Top	35
Sweet Clover	420	Slender Wheat Grass	25
Creeping Red Fescue	285		
Brome	1,120	Total	3,060
Crested Wheat Grass	170		

Project 2 under this policy was designed to assist Municipalities in handling weed problems on farms declared to be under supervision or reclamation. The Department shares equally with the applicant the cost of forage seed up to a maximum of 30 acres.

Six District Agriculturists used this policy on seven parcels of land. The following seeds were supplied:

Alfalfa	325	Creeping Red Fescue	165
Altaswede	60	Reed Canary	12
Sweet Clover	60	Brome	667
Alsike	32		
Crested Wheat	235	Total	1,556

Besides the above, District Agriculturists with assistance from the Field Crops Branch established 156 other conservation demonstrations. They estimate that 3,759 people saw these field demonstrations.

A total of 353 meetings on soil conservation were held by District Agriculturists. It is estimated that over 17,000 farmers were contacted by this method.

"Save the Soil" Campaigns

Campaigns were conducted by 14 District Agriculturists. A total of 641 farmers participated. The Field Crops Branch issued 23 "Save the Soil" certificates. Only those farmers obtaining a score of 80% or more received the award.

Seed Cleaning Plants

There was a total of 126 seed cleaning plants operating during the past cleaning season. Four were farmer operated Municipal Plants. One was operated by an Agricultural Society, seven by local Co-ops., four by grain handling companies and one hundred and ten privately owned. Sixty were portable plants, and the rest were stationary. During the year a fifth Municipal Plant was built at Marwayne, and was officially opened on December 18th, 1951. Minor alterations in two Municipal Plants were made during the season to improve the convenience and increase the capacity of the plants. Several privately owned plants also were rebuilt or remodelled during the year. Four grain handling companies were given permits to clean seed grain. In each case seed grain was handled entirely separate from commercial grain.

The four farmer operated Municipal plants during the past cleaning season, cleaned slightly over 730,000 bushels. Complete records on all plants are not available, but it is estimated that plants other than the Municipal Plants cleaned at least 3,500,000 bushels.

Sixty-two plants were inspected during the season. Permits were issued to satisfactory plants. Weather and road conditions made inspections during February and March very difficult. In addition to the inspection work, 21 meetings were held for the discussion of seed cleaning and plant construction. Several of these were held in connection with the organization work in the

Marwayne and Mundare districts. Both districts were fully organized by September, but due to the very backward harvest season Mundare postponed construction of their plant until spring. It is expected that construction will begin in April.

Several other districts requested meetings to discuss organization and construction of plants as provided by the Provincial Assistance Policy to Municipalities. It is probable that at least three new plants will be built during 1952.

CROP PROTECTION

CROP INSECTS

Grasshoppers

The grasshopper infestation which had started in 1946 on the prairie and reached its peak in 1950 in Alberta continued to decrease in 1951. Although the 1951 forecast did not indicate any decline in the infestation, unfavourable weather during the summer and fall reduced this significantly. As in previous years, the south and south-eastern portion of the province was most seriously affected. The following table shows the district degree of infestation and acreage affected.

District	Acreage	Category
Provost-Bodo area	100,000	Severe
Spondin-Hemaruka area	100,000	Severe
Centering around Chancellor	200,000	Severe
East of Hayter-Bodo region	100,000	Moderate
Watt Lake-Sedlia-Esther	700,000	Moderate
Michichi-Drumheller-Cluny	500,000	Moderate
Centering around Claresholm	400,000	Moderate
Raymond-Warner region	500,000	Moderate
Outskirting above areas	8,400,000	Light

Localized outbreaks in the Peace River country soon dissipated due to weather conditions unfavorable to grasshoppers.

Three economic species of grasshoppers were present throughout all the infested area. The roadside (*Camnula pellucida*) predominated in the Provost-Bodo area and the lesser migratory (*Melanoplus mexicanus*) and the two-striped (*Melanoplus bivittatus*) in the southern region.

Crop losses were negligible due to three important factors, timely forecasts, control practices and unfavorable weather for grasshopper activity. Grasshoppers hatched later than usual, the first bait used was on June 18—as compared with June 3rd in 1950 and May 9th in 1949. In the Claresholm district minor losses occurred before baits, sprays or dusts could be used. No crop damage was reported from the Bodo-Altario region where the greatest injury occurred in 1950.

The grasshopper policy provided materials as follows:

- (a) Sawdust, mill feeds and chemicals for bait were placed at points designated by Municipalities, Improvement Districts and Special Areas.
- (b) Aldrin as an emulsifiable concentrate and dust was made available to farmers at cost.

Baits were prepared at the mixing stations and were supplied free to the farmer, the cost being divided equally between the Government and the district concerned. Farmers obtained sprays and dusts at cost through their local municipal authority.

The chemical, Aldrin (Compound 118) which had proven very effective in 1950, was again used as the basic insecticide in the

preparation of baits and sprays. In addition to the 12,500 pounds of Aldrin that was left from 1950, 20,000 additional pounds were purchased. All Aldrin was emulsified by Chemi-Serve (Alberta) Limited into a 25% emulsifiable Aldrin concentrate. Aldrin spray was used at a recommended rate of 2 ounces technical Aldrin per acre. One gallon of Aldrin emulsion, containing 40 ounces technical Aldrin sold to the farmer for \$7.00. The cost of Aldrin spray per acre was 35 cents.

Thirty-five thousand pounds of 2½% Aldrin dust was also available for use by farmers who preferred dusting to spraying. In the early part of the season 7 to 8 lbs. of dust per acre proved sufficient but 9 to 10 lbs. were necessary to kill adult grasshoppers. Dust was available at 12 cents per lb.—costing the farmer about three times as much as spraying.

Experiments were conducted with Dieldrin (Compound 497) by this Branch in conjunction with the Field Crops Insect Laboratory at Lethbridge. At a rate of 1 oz. active Dieldrin in four gallons of water per acre almost complete (98%) control of hoppers was obtained. Excellent results were also obtained where Dieldrin was used in sawdust-flour baits.

The following table provides information on the extent of the 1951 campaign compared with five preceding years.

	1946	1947	1948	1949	1950	1951
Acres of land in area	8,000,000	2,500,000	8,750,000	11,000,000	10,000,000	10,000,000
Acres of crop land menaced	60,000	32,000	195,000	800,000	700,000	400,000
No. stations operated	6	11	17	75	76	60
Bushels of poisoned bait spread	16,000	9,100	56,700	191,000	184,000	103,062
No. farms receiving bait	242	107	851	2,780	2,336	1,072
Estimated acres crop destroyed	1,200	1,000	2,000	2,500	2,000	900
Estimated lb. technical Chlordane used			800	67,000	23,560	2,500
Acres sprayed by Chlordane			1,100	52,000	6,550	1,500
Estimated lb. technical Aldrin used				1,500	500	
Acres sprayed by Aldrin					13,000	10,000
No. lb. Chlordane Dust used					100,000	62,500
No. lb. Aldrin Dust used				15,000	5,000	22,000
					25,000	

Ten meetings were held in the infested hopper areas to acquaint farmers with latest control methods, with a total attendance of approximately 900 farmers.

The following information was prepared and issued from this office:

- (1) Grasshopper forecast maps (Survey conducted by Field Crop Insect Laboratory, Lethbridge.)
- (2) Revised Bulletin No. 85 "Baits, Sprays and Dusts for Grasshopper Control."
- (3) Charts on "Application of Aldrin Sprays and Dusts."
- (4) Charts re "Precautions on Use of Aldrin."

Wheat Stem Sawfly

Infestation of wheat stem sawfly ranged from 40% to 100% (very severe) in the Nobleford-Carmangay region and in the Warner area. Infestations ranging from 25% to 35%, which may be termed severe, were centered in the Vulcan-Champion-Lomond-Enchant region and the Stirling-Milk River area. Light to moderate infestations occurred in the majority of the remaining wheat growing regions in the brown and the dark brown soil areas. Spring wheat was most seriously affected.

Although the sawfly hazard was severe in some areas, crop losses were not heavy. This reduction in loss is attributable to the extensive acreage now seeded to the solid stem Rescue wheat.

The table below provides a comparison of estimated crop losses from sawfly over the last six-year period.

Crop District	Loss of Grain in Bushels					
	1946	1947	1948	1949	1950	1951
1	1,050,000	1,289,000	1,021,000	404,000	516,000	858,000
2	144,500	143,880	39,700	29,000	33,000	Negligible
3	180,000	197,500	205,500	197,000	167,000	111,600
4	1,680,000	1,586,250	1,018,500	897,000	1,091,000	410,640
5	10,000	56,400	113,200	82,000	89,700	79,110
6	100,000	150,000	197,700	162,000	178,000	Negligible
7	5,000	Negligible	Negligible	Negligible	108,000	308,390

Cutworms

Pale Western Cutworm

In southern Alberta, the Pale Western Cutworm infestation ranged from light to severe in the areas around Armada, Enchant, Bow Island, Winnifred, Schuler and Milk River. By the beginning of June some grain sown on stubble fields in particular was completely destroyed. Mr. L. A. Jacobson of the Field Crop Insect Laboratory, Lethbridge, reported that damage was more extensive and severe than had been observed in Alberta since 1946 and 1947. Wheat, oats, barley, flax and mustard were attacked.

Army Cutworm

Practically every season this insect causes minor losses. This year damage to wheat and barley ranging from 25% to 50% was noted at Winnifred, Whitla and in the Seven Persons district. However, at the end of May, excellent growing conditions followed and much of the damaged crop recovered.

Red-Backed Cutworm

The Red-backed cutworm which did considerable damage last year in the area between Lacombe and Edmonton, practically disappeared from these areas in 1951. Although an outbreak was predicted and farmers were warned to be prepared to take control measures, cold and wet weather which prevailed in the spring was responsible for a heavy mortality in the larvae stage. In a field west of Hobbema where 80 eggs per square foot were found, the population on June 5th was only slightly over 1 per square foot.

Following trials conducted last year, bran baits spread at a rate of 20 lbs. per acre and containing 12 oz. technical Aldrin proved satisfactory. Further work done by the Field Crop Insect Laboratory has indicated that some control may be obtained by using the insecticides Aldrin and Dieldrin.

Wireworms

Wireworm infestations and losses, ranging from moderate to severe occurred in the following areas: (1) most of the Peace River area, (2) Camrose district, (3) Castor-Consort area, (4) Calgary-Strathmore region, (5) Magrath, (6) Wagner-Coutts region. Light to moderate infestations were also noted in many areas in a rectangle east of Range 30 (W4th) to the Saskatchewan border and south of Township 55 to Montana. In the Chin-Taber area failure of seedlings to emerge was not all caused by the wireworms but was also due to heavily crusted soil caused by driving rains

from April 30th to May 3rd. Some potato growers in the Vauxhall area were again concerned over the extensive damage to the crop by this pest.

The damage caused by wireworm was greater than that caused by cutworms and perhaps even greater than that caused by grasshoppers. This year it can be considered as the most destructive single insect pest.

At all meetings and Short Courses held in the wireworm infested areas, cultural and chemical control were outlined in detail. More than 1,000 farmers were contacted. Benzene hexachloride (BHC) now readily available in the province, was effectively used as a seed dressing to prevent wireworm damage to grain crops.

Field trials were again set out to demonstrate the value of these materials.

Sweet Clover Weevil

The sweet clover weevil was again plentiful in areas where this crop is grown, excepting the Peace River country. Some damage to seedling clover occurred in the spring in a few districts north of Edmonton. Heavy adult populations appeared in late summer but caused little damage.

From the results of a general survey of sweet clover fields, the table below shows that the sweet clover weevil did not spread to any extent in 1951.

	1949	1950	1951
Acres sweet clover examined . . .	118,640	121,500	118,000
Acres on which weevil found . . .	13,475	20,500	15,000
Acreage light infestation . . .	5,935	7,800	8,000
Acreage severe infestation . . .	7,540	12,700	7,000

In 1950, a number of sweet clover fields was sprayed with Aldrin to find out if control of weevil could be obtained with this insecticide. Five ounces of technical Aldrin per acre gave effective control. This year similar tests were continued in the Legal, Holden, Spruce Grove and Lamont districts, but only 3 ounces active Aldrin were used. Weevil activity appeared to be halted as effectively as with the higher dosages. However, continuous rains made it impossible to assess the results properly. Twenty-five percent DDT emulsion was also effectively used by some farmers.

Five hundred mimeographed sheets on sweet clover weevil control, prepared by this Branch, were mailed out to all District Agriculturists and Field Supervisors as well as farmers who requested such information.

Lygus Bug

Lygus bugs infested alfalfa fields in somewhat larger numbers than last year. Most of the fields in the Lethbridge area and Eastern Irrigation District had economic populations. The alfalfa growing areas in the Peace River were also all plagued with this pest, destroying from 10% to 25% of the blossom. Two to five bugs per sweep were common throughout the area. As in 1950 the heaviest concentrations were in the Grovedale and Wapiti districts where sixteen bugs per sweep were common.

A number of fields was sprayed with a 25% DDT emulsion at a rate of one-third gallon per acre. Farmers reported good control where this was done. Farmers were also advised to spray with Toxaphene, but this insecticide was not readily available locally until late in the season.

English Grain Aphid

Two English grain aphid outbreaks occurred in Alberta in 1951, one in the Claresholm-Nobleford-Vulcan region and the other in the Grande Prairie district. The outbreak in the south dissipated due to weather conditions with no significant cover crop loss. In the north some fall seeded rye crops were badly damaged. Greatest losses occurred on late seeded fields—on four such fields (approximately 100 acres) complete destruction of young emerging seedlings was observed.

In an attempt to prevent further losses an insecticide commercially known as Metacide (containing 6.2% Parathion) was air expressed from Winnipeg to Grande Prairie. This material was used on the farm of Mr. Demaine (north of Grande Prairie), at a rate of eight ounces Metacide per acre dissolved in four gallons of water. Excellent control of aphids was obtained. Heavy frosts on the nights of September 24th to 26th inactivated the aphids, so that no further control measures were necessary.

On the basis of these trials and those reported from elsewhere, it appears that Metacide can be recommended as an emergency measure for aphid control. The cost of the spray material to the farmer is approximately \$1.00 per acre.



A close-up of a blade of fall rye heavily attacked by the English grain aphid. Aphids caused heavy losses to fall rye crops at some points in the Grande Prairie district.

Colorado Potato Beetle

Colorado Potato Beetle damage was lighter than last year and was mainly confined to the potato growing areas south of Calgary. DDT gave excellent control.

CROP DISEASES

Diseases of Cereal Crops

An unusually high incidence of ergot was found in cereal crops in many parts of the Province. Some farmers have separated the ergot bodies from their threshed grain and have found an outlet for it, apparently to be used for medicinal purposes. Root rots and smuts occurred in the usual amount throughout Alberta. Stem rust appeared in a few fields but the damage was negligible. On the other hand moderate infections of leaf rust of wheat were evident in the south on late crops by September. At least fifty samples of wheat were brought to the office by farmers who were alarmed about the unusual discoloration of stems and heads. In nearly all cases the disease was identified as black chaff—a disease of minor importance. Apparently this condition was caused by a prolonged period of wet, cold weather in September.

The new strain of rust, known as Race 15B which appeared over a widespread area in North Dakota, Manitoba, and parts of south-eastern Saskatchewan in 1950 has not appeared in Alberta.

Diseases of Legumes

The incidence of Bacterial Wilt of alfalfa in southern Alberta was about the same as last year. In one survey where representative fields were examined, the average percentage of plants infested was 33.7%, in stands seeded in 1948, 23.6% in those seeded in 1949, and 4.0% in 1950 sown stands. Winter Crown Rot of alfalfa was prevalent at northern Alberta points. In southern Alberta similar damage was caused by Crown Bud Rot during the growing season. The root nematode which was discovered in the Lethbridge district in 1950 was again found this year but there was no evidence of any spread of this disease. Black stem of alfalfa was unusually prevalent throughout all the alfalfa growing areas in the province, including the Peace River district.

In some sweet clover fields around the Edmonton and Vegreville districts there was a prevalence of rotting of the roots just below the crown and causing the plant to fall. This condition was attributed to environmental factors—a condition which may not appear again for several years.

Bacterial Ringrot Survey in Alberta—1951

All the 1950 ringrot infected potatoes were disposed of into approved channels by the early part of April, 1951. Because of the heavy crop resulting in practically no commercial outlets, it was necessary to extend the cut-off date until that time.

There were 160,000 pounds of Foundation A Netted Gem stocks made available to farmers, who were required to dispose of their stocks because of ringrot.

Ringrot inspection started September 1st with sixteen inspectors in the service. A school was held at Lethbridge to acquaint them with the disease and to outline inspection methods.

The 1951 survey of potatoes in the field was completed under very difficult conditions. Excessive moisture in all areas delayed crop maturity. Because ringrot symptoms are generally more pronounced in the mature crops, it was necessary to repeat inspections on many fields.

The incidence of ringrot in the pest areas of Alberta was considerably less this year. The percentage of inspected farms found diseased, decreased from 10.5% in 1950 to 7.7% in 1951.

There were a total of 771 potato fields (7,473 acres) inspected this year in the control areas at Edmonton, Calgary, Brooks and Lethbridge. The following table shows the farms and acreages of potatoes in all areas and the acreages infested with ringrot in 1951 compared with the same date for 1949 and 1950.

RESULTS OF 1951 RINGROT SURVEY BY PEST AREAS

Pest Area	Year	No. Farms Inspected	No. Farms Diseased	Acreage Inspected	Acreage Diseased	% Diseased of Total Farms	% Diseased of Total Acreage
Lethbridge*	1949	513	78	4,327	747	15.2	17.2
	1950	555	80	6,950	1,515	14.4	21.8
	1951	313	31	4,000	220	9.9	5.5
Calgary**	1949	104	8	320	18	7.7	5.6
	1950	150	9	376	55	6.0	14.6
	1951	111	4	235	15	3.6	6.4
Brooks	1949	155	12	1,855	262	7.7	14.1
	1950	179	11	2,272	196	6.1	8.6
	1951	92	2	1,230	24	2.2	1.9
Edmonton	1949	220	20	2,152	151	7.0	7.0
	1950	245	30	2,526	320	12.6	12.6
	1951	255	22	2,008	219	8.6	10.9
Total	1949	1,052	118	8,654	1,178	11.2	13.6
	1950	1,229	130	12,124	2,086	10.5	17.2
	1951	771	59	7,473	478	7.7	6.4

*This includes Hillspring, Taber, Vauxhall and Medicine Hat areas.

**This includes the Drumheller area.

The highest percentage of ringrot based on the total farms inspected was in the Lethbridge area, followed by Edmonton, Calgary and Brooks.

Although Lethbridge was first in the incidence of ringrot based on the percentage of total farms diseased there were fewer fields with ringrot in this area than has been noted in the last few years. The positive results attained in the last three years gives satisfaction that attempts to eradicate ringrot are producing results.

It is to be noted that the incidence of ringrot has been greatly reduced in the Brooks area. There were only two growers where ringrot was found. Growers in this area should be congratulated on the progress made.

Mention should be made that the ringrot survey not only has reduced ringrot but is also responsible to a large degree, in improving the quality of potatoes in the province.

It is estimated that at least 50% of all infected stocks have now been disposed of. Due to a shortage of potatoes in this province as well as outside the province, no difficulty is anticipated in clearing up all stocks early. As per regulations under the Agricultural Pests Act, infested stocks are all sold or otherwise disposed of under the direction of the Department of Agriculture, Field Crops Branch.

The Department has purchased over 30,000 pounds of Foundation A Netted Gem seed for spring planting. Efforts are being made to obtain a further supply for use in the ringrot control program.

A check is made from time to time on potatoes imported into the province suspected of being infested with bacterial ringrot.

LIVESTOCK PESTS

Cattle Grubs (Warble Flies)

The number of cattle treated for warble fly control has been on the downward trend since 1948 as indicated by the following table:

	1948	1949	1950	1951
No. cattle treated for warble fly control	800,000	400,000	300,000	300,000

There were however as many cattle treated this year as in 1950. One main reason for the general decline is that in many areas farmers report that warbles have been reduced to a point which does not justify further spraying.

A number of herds was checked last spring to find grub infestations considerably reduced but there were still sufficient grubs that could reinfest the land in a short time unless treatment was applied. At every opportunity—farm press, radio, meetings—farmers and ranchers were reminded that warble fly control is an important part of proper herd management and it would pay dividends to spray irrespective what the incidence of infestation may be.

In the area north and east of Edmonton, where very little fly control work was done, five demonstrations were conducted to show proper and efficient spraying methods. Two trials set up in the Municipal District of Strathcona in 1949 are being continued in an attempt to find the degree of reduction in warble fly infestation from year to year.

With the amendments to the Agricultural Pests Act, Municipal Pest Control Officers may enforce warble fly control within the Municipality. Since warble fly control is very effective if carried out on a community basis, all municipalities have been encouraged to participate. Agricultural Service Boards have been active in promoting such projects.

RODENT CONTROL

Pocket Gophers

The pocket gophers continued to be troublesome, especially in the black soil zone.

Four demonstrations were set out in the Edmonton area in an effort to determine the effectiveness of control with cyanide, methyl bromide and baits containing strychnine alkaloid. All of these poisons proved very effective and can be recommended for small areas but their use on large acreages is laborious.

Norway Rats

For the first time in the history of Alberta rats have infiltrated the eastern border of the province to the point of establishing colonies in hamlets and farms. The encroachment is from Saskatchewan, spearheading the province in the area between Empress and Provost. As many as fourteen rats have been killed on one farm in the Bodo-Altario region. A colony is reported to be established under elevators in Compeer. Rats have been killed on the farms near Monitor, Sibbald and at various points in the Municipal District of Acadia Valley. Over thirty locations have been found where rats actually exist or are suspected of being present.

The Department of Agriculture assumed the responsibility of rat control on September 1st, 1950. In order to cope with this problem, the Agricultural Pests Act was amended requiring municipalities, towns, cities and villages to appoint local Pest Control Officers, who would be the keymen in each area carrying out rat prevention and control measures. One hundred and eighty-two pest control officers have now been appointed. Five Provincial Pest Control Officers, stationed at St. Paul, Edmonton, Lethbridge, Medicine Hat and Consort contacted all local Pest Control Officers and gave them instructions and aid in carrying out local campaigns. In the areas bordering Saskatchewan, Pest Control Officers have been very active.



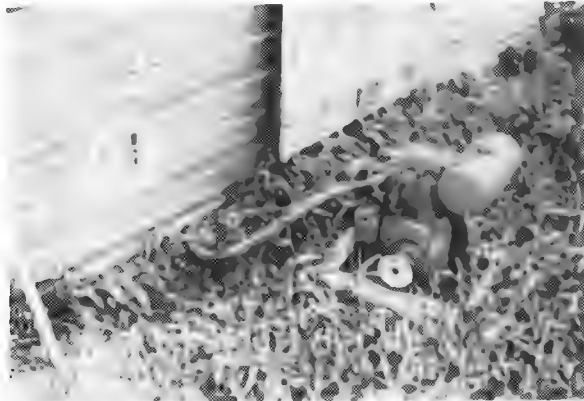
Note rat holes which damaged a wall in a chicken coop. Raised floors provide ample space for rats to thrive and multiply. This picture was taken in the Laverha region.



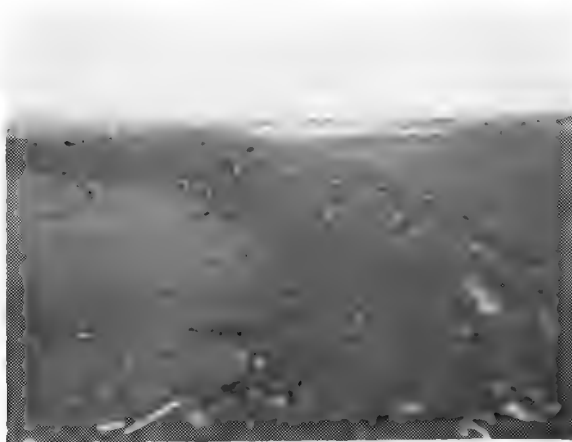
Lorne Trask (left) and J. E. Hockley (right, front), Sanitary Inspectors from Swift Current and Regina respectively, pointing to a large rat run under the granary north-east of Empress. J. H. Moore (right, rear), District Agriculturist, Youngstown, is observing one of the many runs under this building.



The foundation of a granary badly damaged by rats. Note the grain that has leaked out of the rat holes. East of Alsask.



Carbon monoxide can be successfully used by any person to destroy rats under buildings. Such buildings should first be banked. Picture taken east of Empress.



Safe disposal of garbage to prevent rat infestation. This work was done near the Alsask area.

A two-day conference was held at Lethbridge in July, where Pest Control Officers were instructed on various rat control methods. This was followed by similar schools held in August at Provost, Consort, Empress and Medicine Hat.

In order to acquaint people in Alberta with identification of rats, forty specimens, preserved in plastic containers, were prepared and placed in District Agriculturists' offices. These were circulated among schools as well as displayed at various Short Courses and other meetings. Over 2,000 large posters regarding rats were printed and distributed to elevator agents, railway station agents, schools and post offices for posting in conspicuous places to inform the public of the encroaching menace. Fifteen hundred booklets, entitled "Rat Control in Alberta" issued by the Branch were distributed to Pest Control Officers and other persons and agencies interested in rat control.

To assist in the eradication of rats wherever they may be found in the province, the Department obtained 130 pounds of Warfarin 3—(a-acetonyl-benzyl)—4—(hydroxycoumarin), a new poison, which when prepared in proper baits, has proven very effective in all campaigns in the United States. Warfarin is made available to Pest Control Officers who in turn supervise the setting of bait where rats are known or are suspected to be established. The campaign along the Saskatchewan border has been intensified and attempts are being made to have more active participation across our eastern border.

COYOTE CONTROL

On April 1st, 1951, the coyote, by Ministerial Order, was declared a pest under the Agricultural Pests Act. By this action, the control of coyotes in the province became the responsibility of the Department of Agriculture. By arrangement with the Department of Lands and Forests, this responsibility is confined to the settled areas of the province.

Following the above Ministerial Order, a Coyote Control Policy was established and "Coyote Getters" were made available on a Municipal basis for use by farmers. Thirty Municipalities, nine Improvement Districts and three Special Areas have undertaken the program. Since coyote getters contain cyanide as the active killing agent, they are dangerous if placed indiscriminately in the hands of untrained personnel. Hence, schools are first held in every approved area where coyote getters are to be used. Only those who are trained in handling the gun, are permitted to use them. Municipal Pest Control and Area Control Officers can set coyote getters on any land providing a release is first obtained from the land owner or lessee. There were thirty-one "Coyote Schools" held with approximately six hundred people in attendance.

A total of 10,000 coyote getters and 25,000 shells were purchased for use in connection with the Coyote Control Policy. There have now been 6,200 guns and 12,500 shells distributed.

A booklet, entitled "Directions and Precautions for Using Coyote Getters" was prepared by the Branch and distributed in areas where "coyote getters" are set.

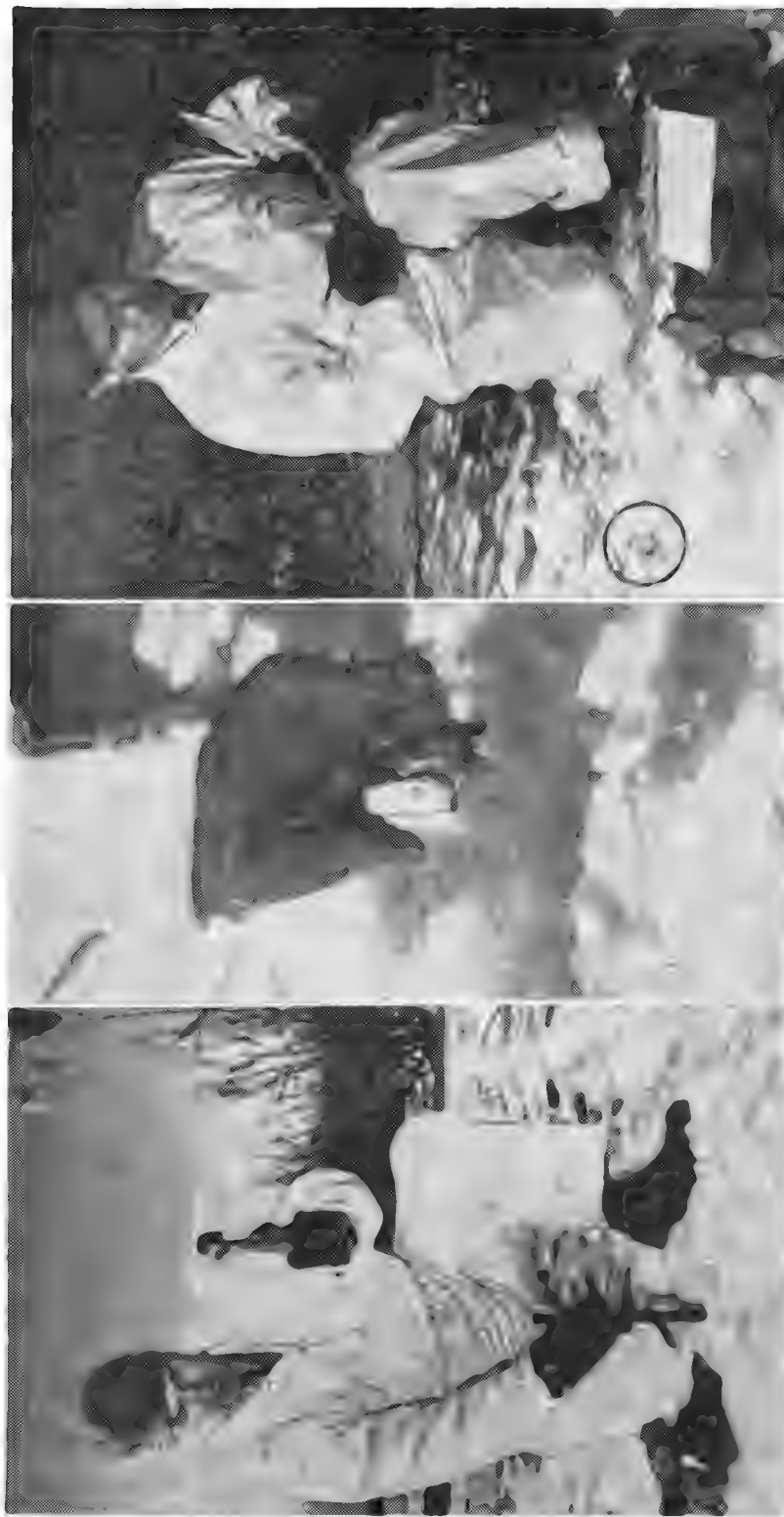
Favorable results have been obtained from all areas where an earnest and conscientious effort has been made to destroy coyotes.

There has been considerable demand by farmers and ranchers in southern Alberta for the use of a very lethal poison, known as 1080 (sodium fluoroacetate) in the coyote control program. The Municipal Districts of Cochrane and Pincher Creek were chosen as experimental areas to try out this poison. These areas were selected because of a large sheep population adjacent to the foothills where coyotes were known to be plentiful. Fifty 1080 bait stations were set out in November and early December. Results appear favorable so far but full assessments will not be completed until next spring (1952). Difficulty was encountered in the distribution of bait (a 75-100 lb. horse carcass treated with 1080 solution). Frequently special transportation equipment (bombardier, snowplane, caterpillar tractor) was necessary to establish a station in a safe place. More trained personnel and more equipment will be necessary, if the control program using 1080 is to be expanded.

Regulations and Ministerial Orders regarding the use of 1080 were printed in the Alberta Gazette on December 31st.



A poster is nailed on a gate to warn farmers that a cyanide gun has been set in the area



Three stages are shown in the setting of coyote getters. At the left, a hole is being made in the ground in which the gun (stake) will actually be placed. In the center the bait (loaded snail) is carefully screwed on to the gun. The picture at the right shows the set gun being carefully recorded in a book provided for that purpose. Note the bait in the inset protruding just above the snow.

Acknowledgment

Sincere appreciation and grateful acknowledgment is hereby made to the Pathologists and Entomologists of the Canada Department of Agriculture, and the University of Alberta, for providing this Branch with results of various surveys and for their assistance and information in planning and conducting programs for the control of plant diseases and insect pests.

Appreciation is also acknowledged to the Department of Zoology, University of Alberta, for the assistance provided in identifying various rodents and other specimens submitted.

HORTICULTURE**Tree Planting**

In 1951 the farmers of Alberta planted 1,662,238 trees. Of these, 1,478,375 were obtained from the Dominion Forest Nursery Station, Indian Head, Saskatchewan, 98,325 cuttings and 25,489 trees from the Provincial Forest Nursery Station, Oliver, and 59,851 cuttings and trees from the Provincial Horticultural Station, Brooks. The 1951 total was an increase of 536,560 over 1950.

Of interest are the numbers and types of plantings carried out in 1951. The figures as reported by District Agriculturists are as follows: 95 Roadside Projects; 173 Field Windbreaks and 282 Farmstead Plantings. These figures do not indicate the complete totals, but only those assisted and encouraged by District Agriculturists. They do, however, serve to indicate the order of popularity of the three types of plantings in this Province.

The two Government tree planters were again used for demonstration purposes. Demonstrations were held in the following districts: Olds, Claresholm, Strathmore, Acme, Rumsey, Hanna, Byemoor, Ryley, Ponoka, Leduc, Rochfort Bridge, Manning, Deadwood, Bluesky, Berwyn and the Edmonton district. A total of 25 demonstrations was held, and 87,050 trees planted with these machines.

The weather throughout 1951 was ideal for tree planting. A heavy snowfall with a gradual moderation of temperature insured a minimum loss of moisture through run-off. As a result, the soil was in excellent condition for tree planting. Throughout the late spring and summer, rainfall was above average, and generally the days were cool, providing for excellent growing conditions. Because of these ideal conditions the rate of survival in 1951 was much improved. Losses as high as 90% were reported in 1950 while losses over 10% were rare in 1951.

Forest Nursery Station, Oliver

On April 1st the Provincial Forest Nursery Station, located at Oliver, was transferred from the Department of Lands and Forests to the Department of Agriculture. The total area of the Nursery is 83.74 acres with approximately 70 acres suitable for tree planting. In 1951, 123,814 trees and hardwood cuttings were distributed to 492 applicants. As of December 31, 1951, there was a total of 169,167 trees on the Station; 118,927 were conifers and 50,240 deciduous. In addition there were approximately 150,000 hardwood cuttings of north-west poplar, golden and laurel leaf willow.

During the year, 7 two-row windbreaks were established on the Station. These will serve the dual purpose of providing protection for the young transplants and also ensuring a ready supply of seed within a few years. At present, most of the evergreen seed is obtained from the field staff of the Department of Lands and Forests. In addition, personnel of the Nursery gather seed whenever possible. A dugout was finished late in the year, and this will serve as a storage basin for all water to be used for irrigation purposes. An overhead sprinkler system was used to apply water to the seedlings and transplants. The kiln in the seed extracting room was rebuilt to provide higher temperatures necessary for the extraction of conifer seed. A bunkhouse to provide living accommodation for the staff was completed in 1951.

During the year, 4 men were employed. In addition, patients from the Oliver Institute were used from time to time throughout the year. They provided valuable help, particularly at shipping time.

Provincial Horticultural Association

A two day convention was held at the Olds School of Agriculture during the summer of 1951. Official delegates from most of the local Horticultural Societies were present. After two days of informative discussion the delegates voted unanimously to proceed with incorporation. The Constitution and By-laws were prepared according to directions received from this general meeting. As a direct result of this gathering, a Provincial Horticulture Association was formally incorporated on November 28th, 1951. Its first responsibility will be to co-ordinate and direct the efforts of the local societies throughout the province.

Extension

The Supervisor of Horticulture addressed 8 Short Course meetings in 1951. Besides these meetings, arranged by District Agriculturists, he addressed 18 other meetings. The subjects discussed included Tree Planting, Farmstead Planning, Landscaping the Home Grounds, and Fruit and Vegetable Growing in Alberta. He also acted as a judge at seven Horticulture Branch Shows. Generally, these shows were up to their usual high standards, but in a few cases the number of entries and quality of material was lower and of poorer quality than in previous years. This was due in the main to inclement weather conditions during the growing season. Several areas were severely damaged by hail, while in others the cool, wet summer prevented the warm weather crops, such as tomatoes and cucumbers, from reaching maturity.

Farmstead Planning was done in seven District Agriculturists' areas. This involved personal calls accompanied by the local District Agriculturist to several farms in each of the seven districts. There is a sincere interest in this program throughout the province and many well planned and planted farmsteads have been started during the past year. Interest and requests for help are increasing each year.

Demonstration Orchards

During 1951 many of the Demonstration Orchards were visited. This inspection is carried out principally to assist the farmer to

get the most from his orchard. In most cases these are thriving, although it was evident that some help was needed to insure that proper pruning practices are carried out. In some cases the trees were planted too close together and are now presenting a problem with respect to cultivation and weed control. Unfortunately, it was not possible to visit all of these orchards, although that had been the intention. Eight new Demonstration Orchards were established, making a total of 92 active ones at the end of the year. In addition to supplying trees to the new orchards, trees were supplied to several established orchards.

PROVINCIAL HORTICULTURAL STATION BROOKS, ALBERTA

Administration

The major effort of the past year has been directed towards development of the new headquarters nursery farm east of Brooks. Steady progress is being made with the buildings and the re-establishment of trees. The tree storage cellar and packing warehouse are enclosed and ready for stucco. Footings and outer walls for the workshop and office buildings are completed. It is anticipated that offices will be moved to the new headquarters by mid-summer.

Irrigation systems and structures carrying the main supply of water were changed to prevent seepage and loss of soil alkali. A new spillway requires construction of a sluice before its completion. Willows were removed from approximately 10 acres of land where seepage had prevented cultivation. The ditch in this area was raised to prevent further trouble, and an additional 5 acres of land in the centre of the south field was made irrigable when fill soil to raise the ditch was removed. Irrigable acres farmed totalled 362, of which 140 acres, on the new headquarters, were cropped with alfalfa, clover and tame pasture. Trees removed from the present headquarters have been planted on 20 acres and the balance of the land was summerfallowed.

The hours of labor for the months April to November inclusive were 27,200, a reduction from the previous year of 1,100. However, labor costs increased 25% due to higher wage levels.

One tractor, truck and hay rake were replaced with new equipment. Cultivating and haying equipment was rented.

Fewer visitors inspected the Station during the past season. This was no doubt due to the poorer blossom period and small fruit crop. Inquiries received increased 10% over the previous year. Personnel of the Station addressed 67 public meetings and judged 7 flower shows and 1 garden competition.

Climate

Weather conditions were extreme for horticultural crops. The winter was long and steady. A blizzard occurred on March 5th, followed by low temperature. On March 11th -38 degrees F. was recorded. Temperature moderation preceded another blizzard with heavy snow and severe drifting on March 16th. Warm weather followed the blizzard conditions and signs of growth were apparent by the middle of April. On April 18th a third blizzard occurred, accompanied by 10 inches of snow and a temperature of 7 degrees F. This blizzard did a great deal of damage to all

fruit trees that had broken dormancy. The last killing frost of the spring occurred on May 30th. The spring was moist, with few windy days, providing ideal transplanting weather. A frost-free growing period of 118 days was cool with more than usual rainfall and fewer hours sunshine. Precipitation from April 1 to September inclusive, was 16.34 inches as compared to the normal of 9.04 inches. Only one irrigation was necessary, and even then heavy rains followed. The first killing frost occurred on September 26th following a snow storm on September 24th. The fall was wet, with extremely poor harvest conditions. The final threshing was done during a dry, windy period between November 14th and December 10th. The following table gives the maximum and minimum temperatures for the year with the monthly precipitation.

Month	Max	Min.	Av. Max.	Av. Min.	Precipitation
January	38	—39	14.77	— 4.03	1.01
February	40	—29	20.82	— 3.60	1.28
March	49	—38	21.03	.90	1.09
April	73	7	50.75	24.30	.95
May	87	27	68.48	42.35	2.17
June	84	31	65.83	44.33	5.27
July	92	44	79.22	53.22	1.29
August	94	39	70.90	50.48	4.34
September	82	22	62.96	38.86	2.32
October	80	4	44.19	25.70	2.86
November	49	— 1	36.06	19.79	
December	44	—34	15.06	.38	.67
Total					23.25

Propagation

Increasing plant materials for farmsteads, field shelterbelts and roadside plantings was emphasized. Ideal conditions prevailed for the seedling of stratified stocks, lining out of seedling stocks, and the planting of cuttings.

Stratified seeds germinated well, with excellent results being obtained with May Day, Apple and Flowering Plum. Seed of Manitoba Maple and Lilac, stored dry and planted in the spring, gave good stands. Ash and Ginnalian Maple were fair, while American and Manchurian Elm were poor due to possible frost injury of seeds before maturity. The germination of evergreen seed varied, depending on the source of seed. Lodge Pole Pine and White Spruce from the central part of the province failed to grow, while seed of the same pine from old stocks and imported Scotch Pine gave good stands.

A total of 457 pounds of tree seeds was planted. This was an increase of 174 pounds over 1950. To handle this increase the lath house was doubled in size and the area now under protection will be again increased for next spring's work.

Cuttings

Hardwood cuttings were planted under ideal conditions. After growth started there was an apparent breakdown of the tissues between the nodes, with a resultant high mortality. Apparently, winter injury to the conducting tissue prevented the movement of food from one area of the cutting to another. Only 6% of the stand developed into whips.

Propagation from greenwood cuttings has again been tested to determine the advantage, if any, over other methods of propagation. Kinds of greenwood cuttings have rooted as follows:

Rooted 80% & Over	Rooted 60-80%	Rooted 40-60%
Eunonymus nanus	Salix alba sericea	Sy. japonica
Salix viminatis	Sy. Prestoniae Juliet	Sy. Oblata dilatata
J. scopulorum	Sy. Prestoniae Celia	Sy. velutina
E. alatus	Sy. Prestoniae Virgilia	Sy. Josiflexa var. Bellicent
Sy. Prestoniae Romeo	Sy. Prestoniae Nerissa	Euonymus atropurpureus
Sy. Prestoniae Jessica	Sy. Prestoniae Elinor	Viburnum trilobum
Sy. Prestoniae Cressida	Sy. Prestoniae Katherina	Rosa altaica
	Sy. Prestoniae Octavia	
	Sy. Prestoniae Paulina	
	Sy. Mme de Miller (Vulgaris)	
	Sambucus canadensis	
Rooted 20-40%	Rooted 4-20%	
Syringa amurensis	Betula glandulosa	
Cornus alba sibirica	Princepia sinensis	
Cornus amomum	Rhamnus tinctoria	
Populus alba nivea	Rhamnus cathartica	
Berberis sibirica		
Ulmus pumila		
Lonicera dioiea (sel.)		
Lonicera glaucescens		
Cotoneaster tomentosa		

The varieties included in the test and showing no response to rooting are: *Amorpha fruticosa*, *Rhamnus dahurica*, *Maackii amurensis*, *Betula youngi*, *Elaeagnus angustifolia*, *Tiliacordata*, and *Tilia tomentosa* Hybrid B.F. No. 2.

Twenty thousand five hundred sixty-six seedlings were dug and lined out. These consisted of 11,524 ornamentals and 9,042 assorted fruit trees and bushes. One thousand six hundred forty-one budded whips were set out in rows. The buds placed in 1950 were severely damaged during the first winter, with a resultant reduction in the number of whips developing during the past season.

Shipping

A carload of Lilacs and a large quantity of ornamentals, including shrub and tree seed were obtained from the Federal Experimental Station, Morden. From this stock, 26 varieties of Lilac were added to the collection now established on the Station. A total of 59,851 plants was shipped to 277 farmers. Eight new demonstration orchards and 2 illustration orchards were established in co-operation with District Agriculturists.

Test Plantings

Orchards:

Test orchards of apples, stone fruits and small fruits are established at the Station. New varieties are being continuously added to these orchards for testing purposes. Records of their hardiness and productivity are kept. During the past season a high percentage of killing was experienced in the apple block, due in large part, to the blizzard in April. Stone fruits were not injured to the same extent. Small fruits, even where protected by snow, killed back from 40 to 90%. The fruit crop was negligible and all fruit was saved for seed extraction.

Re-establishment of varieties being tested on the old headquarters was carried out in two new orchards, No. 9 and No. 10, at the east Station.

Ornamentals

The collection of hardy varieties and species from the ornamental block has been moved to the new headquarters. Six plants of each were transplanted for test and propagation.

Seedling Blocks

Fruit tree seedling blocks in which the trees are allowed to reach fruiting age are added to each year. As soon as they come into fruit all unsuitable trees are removed and the area replanted with seedlings.

Growth Studies:

Measurements on the rate of growth of fruit trees have been taken since 1944. Studies have also been made with respect to season and period growth. Additional data was obtained this year.

Hardiness Studies

An orchard planted to *Malus baccata* trees in the fall of 1928 has many outstanding specimens. To check the hardiest of these trees for propagation, borings have been taken and mounted. Stump sections taken at ground level of 14-year-old apple-crab trees were studied for winter injury. These sections were cut when old trees were removed from part of the Nursery being sub-divided for building purposes. The object of the investigation is to obtain information which may be useful in selecting root stocks.

VEGETABLES**Potato Rotation**

Potato trials on irrigated land in a rotation after alfalfa have been underway since 1947. These tests replaced the fertilizer trial experiments carried on during the years 1942 to 1948. In 1951 only one-quarter of the area was harvested due to wet conditions. Yield data was gathered from the alfalfa and potato crops in the rotation.

Vegetable Trials

An effort is being made to determine the most suitable strains and varieties of vegetables for Alberta, having in mind the need for varieties suitable for the home garden and the home locker. During the trials of the past season, emphasis was placed on corn, beans and tomatoes. Twenty-five varieties of corn were included in the trials. Only 9 varieties reached maturity. As a result of this trial, Orchard Baby, Golden Early Market and Golden Glacier can be recommended as early varieties for Alberta suitable for freezing.

The tests included 62 varieties of beans and 6 varieties of broad beans. The majority of the former were imported French varieties and were included primarily for the freezer test. Fifty-two tomato varieties were grown, including 18 second crosses selected from the hybridizing work done in the winter of 1948-'49; 28 selections were made from this group. One of these selections, a result of the cross Farthest North x Bison, proved outstanding.

Reciprocal crosses of 12 selections of tomatoes were made in a program to develop an earlier ripening, dark fruited variety suitable to the home gardener. Types suitable for canning will also be selected. The hybrid (F1) seed will be grown in test blocks this coming summer. From the original crosses of previous years, thirty F3 plants have been saved for further trial.

Included in the vegetable breeding program is an investigation into an evergreen cabbage grown by the market gardeners of the Coaldale area. Selfed-strains of this cabbage are being carried through to maturity and seed production in order to obtain a more uniform variety.

Foundation Vegetable Seed Production

Production of 19 vegetable varieties for foundation seed is part of the Station program. Each year a selected group of these varieties is grown to maturity for seed purposes. During the past season 15 varieties were grown and seed was harvested from beans, corn, radish, marrow and tomato. Due to the cool season and bad harvesting conditions, the varieties of cabbage, squash, cucumber and some tomatoes did not reach maturity.

Frozen Foods

Frozen food varietal trials, to classify vegetables and fruits for home processing and locker storage, were continued. This project required processing vegetable varieties in the laboratory under conditions similar to the average home, holding them in frozen storage and then having them scored by a qualified taste panel. Over a period of years numerous varieties have been classified as to their suitability and the information has been made available to home owners and locker plant operators. Emphasis, during the past year, has been with corn, beans, spinach and tomatoes. Supplementary work was done with peaches and apples. As a result of this work two French type Haricot beans, L'Inpuisable and Flageloet blanc du Nord, have warranted re-test. The highlight of the test was the quality of the New Zealand Spinach (*Tetragonia expansa*). The taste panel classified 103 varieties of vegetables, 20 vegetable mixes, 3 tomato juices and 14 varieties of raspberries. During this season 80 varieties of vegetables and 20 peach samples have been placed in the freezer for testing and scoring. In addition, 40 different wrapping materials and containers have been tested for locker use.

MISCELLANEOUS CROPS

Herbaceous Perennials

Stock carried as a basis for future plantings was removed to the east Station.

Hops

All the propagating material possible was planted out for increase in preparation for the establishment of a new hop yard.

Report of the Live Stock Branch

W. H. T. MEAD, Live Stock Commissioner

I. A. Coles, Supervisor of Feeder Associations

W. C. Gordon, Live Stock Supervisor

A. J. Charnetski, Live Stock Supervisor

R. J. McKnight, Artificial Breeding Laboratory, Olds

Cattle

Cattle wintered in good to fair condition. Although there was ample rough feed, good quality hay was in short supply. A heavy storm in mid-March caused individual cases of heavy loss in Southern Alberta, but the total loss provincially was not great.

With above average precipitation in nearly all parts of the province from spring to fall, pastures remained good throughout the growing season and gains on pasture were high.

The wet summer and fall caused extensive spoilage of hay. When this was followed by early snow, a very acute shortage of feed developed in the Calgary area and in other areas in Southern Alberta. This situation was eased somewhat in November when some threshing was done and green feed stacked. With winter well advanced the situation is one of ample rough feed, but very little good quality hay.

The early snow, with feed still out, caused a very heavy run of cattle on the Calgary yards in late October. Cattle prices remained strong despite the heavy run. The apparently insatiable demand by the United States for Canadian cattle had a definite firming effect on the market at that time.

Cattle marketings for the year through the public stock yards and packing plants are about 12.1 per cent lower than last year.

Selling cattle by auction on the public stock yards in Alberta continues to gain in favour. There is a definite trend to less direct selling to packing plants with greater numbers going through the auction rings on the yards.

Canadian Freight Association Tariff number 22C, providing for 25 per cent reduction in freight on return movement of live stock from exhibitions or fairs to original point of shipment, came into effect May 15th, 1951.

The demand and prices for good pure bred breeding stock continues strong as shown by the high average prices obtained by the various pure bred sales held during the year.

At the seventh annual sale of Shorthorn bulls held May 8th by Claude Gallinger, 30 bulls sold for an average price of \$2,546.00. The top bull sold for \$15,000.00 to Wm. Melnyk & Sons, Chipman, Alberta. This was a record high price for a Canadian Shorthorn bull.

Following dispersal of his Hereford herd by private sale, Arthur Crawford-Frost, Nanton, Alberta, sold his 1950 bull crop by public auction November 8th, 1951. Thirty-two bulls averaged \$3,164.50. The top bull sold for \$12,000.00 to the Parker Ranch, Chelsea, Oklahoma.

A total of 710 bulls were sold at the Fifty-first Annual Calgary Bull Sale for an average price of \$1,123.28. This was a decrease in number of bulls sold of just under 40 per cent from 1950. The average price was the highest ever obtained since inauguration in 1901 and was more than double the average price for 1950.

Austin C. Taylor, A.C.T. Ranch, Kelowna, British Columbia, paid \$8,200.00 for the Hereford bull "Lorne Real's D 14D"-282005-bred by C. D. McDougall, Champion. Ernest R. May, Jr., Sunshine, Wyoming, paid \$7,200.00 for the Hereford bull "Caerleon Royal Dandy 9D"-262772-bred by W. A. Crawford-Frost, Nanton. Alfred Menke, Saco, Montana, paid \$2,700.00 for the Aberdeen Angus bull "Eenchanter's Destiny UA"-100271-bred by the University of Alberta. McArthur Bros., McArthur, California, paid \$3,500.00 for the Shorthorn bull "Rannoch Remembrance"-316084-bred by T. G. Hamilton, Innisfail, Alberta.

Auction Sales of Pure Bred Cattle

CALGARY BULL SALE:

	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	172	\$529.00	219	\$442.76	133	\$825.56
Aberdeen Angus	145	510.17	171	424.30	70	963.57
Hereford	685	693.66	772	594.03	507	1223.42
Total all breeds	1002	\$638.99	1162	\$540.55	710	\$1123.28

EDMONTON BULL SALE:

	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	94	\$435.10	93	\$404.46	123	\$541.50
Aberdeen Angus	12	346.66	20	323.75	8	610.63
Hereford	32	541.93	118	431.35	82	911.77
Total all breeds	168	\$468.21	231	\$411.21	213	\$686.64

LACOMBE BULL SALE:

	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	90	\$377.00	145	\$311.89	117	\$600.00
Aberdeen Angus	62	448.34	127	372.67	107	725.00
Hereford	125	494.32	229	376.00	184	872.35
Total all breeds	277	\$446.01	501	\$356.60	408	\$755.35

LLOYDMINSTER BULL SALE:

	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	35	\$349.70	36	\$336.81	38	\$606.18
Aberdeen Angus	1	290.00				
Hereford	59	517.29	78	455.13	79	800.00
Total all breeds	95	\$453.15	114	\$413.77	117	\$737.05

CAMROSE BULL SALE:

	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	21	\$264.52	29	\$272.93	30	\$410.66
Aberdeen Angus	1	180.00	1	180.00	1	350.00
Hereford	31	338.70	32	327.65	32	584.53
Total all breeds	53	\$306.32	62	\$299.67	63	\$498.01

The June survey of the number of cattle on Alberta farms for the past five years is as follows:

Year	No. of Head
1947	1,654,000
1948	1,584,300
1949	1,465,000
1950	1,442,900
1951	1,482,400

The increase in numbers from 1950 is 39,500 head or 2.74 per cent. This is the first increase shown since 1945.

The official reports of the Canada Department of Agriculture show for Alberta the following cattle and calf marketings and total value for 1947 to 1951 (inclusive):

Year	No. Cattle	Value	No. Calves	Value
1947	423,154	\$46,123,786.00	87,185	\$ 2,571,085.00
1948	531,988	75,341,245.33	118,240	5,063,643.71
1949	526,958	80,624,000.00	126,089	6,304,000.00
1950	473,354	92,458,000.00	137,721	12,000,000.00
1951	385,660	102,007,070.00	92,649	11,320,781.00

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1947	1948	1949	1950	1951
British Columbia	102,924	103,193	102,883	89,258	64,869
Saskatchewan	12,734	12,248	6,633	4,249	4,175
Manitoba	27,197	33,186	30,188	19,623	14,047
Ontario	18,508	42,940	49,706	48,908	44,398
Quebec	34,627	37,522	36,759	20,889	13,841
Nova Scotia	375	34		28	6
New Brunswick				22	
U.S.A.	150	72,402	80,342	115,060	63,287
Newfoundland		42	71		
Prince Edward Island	56	5			21
	196,571	301,572	306,582	298,037	204,644

The Cattle Improvement Policy

The Cattle Improvement Policy continued to operate on the same basis as in 1950 until November first when the following revisions came into effect:

(1) The percentage contributed toward the cost of sires by the Department of Agriculture was retained at ten per cent, but the maximum assistance per sire was raised from forty to fifty dollars.

(2) The percentage assistance in Pure Bred Sire Areas was established at fifteen per cent with a maximum assistance per sire of seventy-five dollars.

(3) For the first time since inauguration in 1938, farmers were given an opportunity to obtain a second sire through the policy provided two full years have elapsed since they received their first sire.

During the year, 309 bulls were placed through this Policy comprising 148 Herefords, 106 Shorthorns, 35 Aberdeen Angus, 13 Holstein, 3 Red Polls, 3 Ayrshire and 1 Jersey.

LIVE STOCK LISTING BUREAU

Under this policy, pure bred breeding stock, male and female, is placed with pure bred breeders and others not entitled to come under the Cattle Improvement Policy. There is no financial assistance under this Policy. During the year nine bulls and thirty-two females were placed.

DAIRY HEIFER CALF CLUB POLICY

The policy of picking up dairy heifer calves from dairymen in the Edmonton milk-shed for shipment to organized junior dairy calf clubs was continued throughout the year. The demand for calves exceeded the supply as only 47 calves were received compared to 103 calves in the previous year. This was, no doubt, due to some extent to the price factor and the number of private sales of dairy calves to individuals seeking replacements in that manner.

COMMUNITY AUCTION SALES

Selling cattle direct from the producers to feeders or processors by means of community auction sales retained its popularity gained over a period of years and was conducted at a number of points in the province this year. The main sale agency was the Community Auction Sales Limited with headquarters at Pincher Creek. In addition, sales were held by independent organizations at Walsh, Medicine Hat, Brooks, Cadogan, Lea Park and Vermilion. A total of 20,023 cattle were inspected through these various sales as compared to 19,610 for the previous year. Prices received at the sales were generally very satisfactory.

ARTIFICIAL INSEMINATION PROGRAMME, OLDS

The Artificial Breeding work in 1951 followed the pattern of 1950 and the last six months of 1949.

Service was provided to 51 breeders of grade Holstein cattle in the Olds Breeding Club district. Two hundred and ten cows were inseminated under this plan, 178 to "Sovereign Masterpiece"-198229-, 24 to "Glenafon Escort"-223304-, and 8 to "Glenafon Clipper"-216609-.

The following table will show the volume of service provided under the Grade Programme:

	1949 (6 months)	1950	1951
No. of herds	24	41	51
No. of cows	64	156	210

The service to breeders of registered Holstein-Friesians was provided from the same three sires as listed previously, in 119 herds with a total of 436 cows being serviced.

The following table will show the volume of breeding under this plan:

	1945	1946	1947	1948	1949	1950	1951
No. of herds	16	43	58	63	83	92	93
No. of cows	108	247	317	407	365	419	474

Of this 436, 327 were serviced to "Sovereign Masterpiece," 98 to "Glenafon Escort" and 11 to "Glenafon Clipper."

The total number of cows inseminated under both plans was 646, 505 to "Sovereign Masterpiece," 122 to "Glenafon Escort" and 19 to "Glenafon Clipper."

FEEDER ASSOCIATIONS

There were eleven associations operating during the 1950-51 feeding season under the Feeder Associations Guarantee Act.

An extremely wide "margin" resulted in very substantial profits for feeders.

The profitable 1950-51 feeding season and the large surplus of low quality grains, coupled with the high price of feeder cattle and hence the need for additional credit led to the formation of fifteen new feeder associations during the fall of 1951.

Following is a list of the new associations formed:

Andrew-Willington Feeders' Ass'n., Ltd., Andrew
Bowden Feeders' Ass'n., Ltd., Innisfail
Condor Feeders' Ass'n., Ltd., Condor
Eagle Hill Live Stock Feeders' Ass'n., Ltd., Olds

East Bow Valley Live Stock Feeders' Ass'n., Ltd., Brooks
 East Central Feeders' Ass'n., Ltd., Lacombe
 East Olds Live Stock Feeders' Ass'n., Ltd., Olds
 Garden City Feeders' Ass'n., Ltd., Magrath
 Horse Shoe Lake Feeders' Ass'n., Ltd., Innisfail
 Mannville Live Stock Feeders' Ass'n., Ltd., Mannville
 Marwayne Live Stock Feeders' Ass'n., Ltd., Marwayne
 Ponoka Feeders' Ass'n., Ltd., Ponoka
 Raven Feeders' Ass'n., Ltd., Innisfail
 Tilley & Rolling Hills Live Stock Feeders' Ass'n., Ltd.,
 Brooks
 Westlock Feeders' Ass'n., Ltd., Westlock

FEEDER ASSOCIATION OPERATIONS, 1950-51 SEASON

Association	No. Members	Cattle	Sheep	Amount of Credit
Battle River Feeders' Ass'n. Ltd., Camrose	30	567	1,376	\$ 93,850.25
Bow Valley Live Stock Feeders' Ass'n. Ltd., Carstairs	27	490	1,376	99,512 10
Carstairs Live Stock Feeders' Ass'n. Ltd., Carstairs	24	520		90,807.02
Central Alberta Live Stock Feeders' Ass'n. Ltd., Lacombe	32	857	262	113,207.46
Innisfail Feeders' Ass'n. Ltd., Innisfail	35	629		100,295.82
Knee Hill Valley Feeders' Ass'n. Ltd., Innisfail	28	578		97,134 35
Raymond-Magrath Feeders' Ass'n. Ltd., Magrath	22	426	1,074	73,585 81
South Slope Live Stock Breeders' Ass'n. Ltd., Brooks	33	462	1,669	99,181.07
Taber Feeders' Ass'n. Ltd., Taber	5	90		18,920.04
Vermilion & District Live Stock Feeders' Ass'n. Ltd., Vermilion	38	726		97,771 78
Wainwright-Edgerton-Chauvin Feeders' Ass'n. Ltd., Edgerton	17	270		33,135 00
	<u>291</u>	<u>5,615</u>	<u>4,381</u>	<u>\$917,400.70</u>

SHEEP AND SWINE

Swine:

The Alberta swine producers experienced a relatively profitable year. There were only a few short periods of time when market prices dropped close to the cost of production. The anticipated increase in hog marketing did not materialize. Hog marketings for Alberta in 1951 are approximately equal to those of 1950. Some of the commercial hog feeders curtailed their activities during the year because of the high ex-elevator feed grain prices. Mortality in new born pigs was slightly larger than last year which naturally added to decrease in hog marketings.

Federal live stock reports do not indicate any export of live slaughter hogs or pork products during the year. The anticipated export of live hogs for slaughter to the United States did not materialize due to unfavourable market price differentials. Increase in domestic consumption of pork was brought about by extremely high beef values. This situation kept Canadian hog markets well above those in the United States throughout the year, and in fact, has caused the reversal in the import-export pork situation. It is now reported that approximately 30 million pounds of pork products were imported from the United States.

At the present time there is no indication of any Bacon Agreement with Great Britain.

As in the past year, the Government of Canada will maintain bacon floor price at \$32.50 basis seaboard per one hundred

pounds, sizeable Wiltshires; a 200 pound live hog yields approximately 125 pounds of Wiltshires. This floor price will provide a minimum of \$24.50 per one hundred pounds dressed weight for Grade A hogs in Alberta.

Hog prices fluctuated widely during the year, fortunately low periods were of short durations and had little adverse effect on stability of the industry.

Grade A hog prices at Edmonton stock yards fluctuated from a high of \$39.75 in June and July to a low of \$27.50 in November. Calgary maximum price was \$39.75 per one hundred pounds dressed weight in July and a low of \$27.50 in December. Packing plant prices for corresponding periods were somewhat lower. There was no practical change in the percentage of "A" grade hogs in Alberta. In 1950, 25 per cent of hogs graded "A"; in 1951 nearly 26 per cent fell into the top grade.

Keen demand for good breeding stock exceeded available supplies. Prices were very satisfactory for quality offered. Details of sales are tabulated elsewhere in this report.

The services of this office were required in dealing with various problems pertaining to the live stock industry. Several new swine herds were started this year.

There was a total of 34 meetings held during the year. The total attendance was 2,909 persons, averaging at 85 per meeting.

FEDERAL-PROVINCIAL BROOD SOW POLICY

There was no demand for placement of gilts under the Federal Provincial Brood Sow Policy.

In November, 1950, a boar and two English Large White Sows were brought to Olds School of Agriculture to form a herd of English Large Whites. No progeny of the all English strain have been marketed as yet, however, a fair number of the progeny of the English boar on Canadian Yorkshire sows were sold this fall—over 80 per cent of these yielded "A" grade carcasses.

SWINE IMPROVEMENT POLICY

Under the Swine Improvement Policy, boars of recognized bacon breeds are made available at cost to eligible hog producers. Railway shipping charges are prepaid to destination on boars purchased by authorized officials of the Department. Each applicant is entitled to a boar under the Policy every second year. Those who are not eligible are given the services under the Live Stock Listing Bureau which does not provide for prepayment of shipping charges.

The total placement of swine under the policies mentioned above are tabulated hereunder:

	Live Stock List- ing Bureau Gilts	Boars	Imp. Policy Boars	Total Boars
1947	50	5	190	195
1948	22	14	120	134
1949	19	20	145	165
1950	8	4	119	123
1951	5	5	129	134

In the above totals for 1951, 19 Tamworth boars are included.

Swine

TABLE 1

ALBERTA SWINE POPULATION—JUNE SURVEY

1948	792,200
1949	847,100
1950	809,700
1951	1,088,000

TABLE 2

ALBERTA HOG GRADINGS FOR YEARS 1947-1951 INCLUSIVE

	1947	1948	1949	1950	1951
	%	%	%	%	%
Grade A	21.96	23.21	22.13	25.00	25.12
Grade B	54.30	57.12	57.22	56.32	43.04
Grade C	7.12	6.84	6.86	6.28	3.77
Light	0.92	1.03	0.95	1.40	7.12
Grade D	0.33	0.46	0.40	0.56	6.69
Heavy	3.48	2.94	2.92	2.03	1.06
Extra Heavy	3.53	2.47	2.69	1.77	.51
Injured	0.06	0.06	1.05	0.04	3.00
Rgl.	0.54	0.56	0.56	0.51	2.56
Stags	0.45	0.42	0.45	0.45	.05
Sows	7.31	4.89	5.77	5.64	.54
					6.05

TABLE 3

EDMONTON SPRING SWINE SALE (No. Sold and Average Price)

	No.	1949	No.	1950	No.	1951
Yorkshire gilts	130	\$ 99.34	44	\$109.25	59	\$165.43
Tamworth gilts	2	90.00	2	91.25	11	128.19
Yorkshire boars	48	70.73	33	90.84	30	146.33
Tamworth boars	3	80.00	8	60.94	9	118.33

TABLE 4

EDMONTON FALL SWINE SALE (No. Sold and Average Price)

	No.	1949	No.	1950	No.	1951
Yorkshire sows	196	\$ 68.52	131	\$ 72.63	129	\$ 90.00
Tamworth sows	21	58.58	8	76.25	7	95.00
Yorkshire boars	161	63.32	135	81.53	107	117.31
Tamworth boars	6	92.50	23	80.67	15	99.00
	384	\$ 66.02	297	\$ 74.03	258	\$101.99

TABLE 5

CALGARY FALL SWINE SUMMARY

	No.	1949	No.	1950	No.	1951
SOWS.						
York. Oct.-Apr.	118	\$ 65.85	81	\$ 98.40	94	\$ 69.75
York. Prev. Oct.	16	81.87	3	106.66	1	75.00
Tam. Oct.-Apr.	16	58.91	18	76.56	5	60.00
Berk. Fem.	3	68.33			4	56.25
Female Total	153	\$ 66.84	102	\$ 94.61	104	\$ 68.62
BOARS.						
York. Oct.-Apr.	66	77.08	94	93.03	78	81.41
York. Prev. Oct.			15	73.83		
Tam. Oct.-Apr.	24	84.06	19	102.89	20	95.63
Tam. Prev. Oct.	1	70.00	1	80.00		
Berk. Boar	4	73.75	3	99.17	2	73.75
Hamp. Boar			2	56.25	1	70.00
Boar Total	95	\$ 78.63	134	\$ 91.77	101	\$ 83.96
SWINE TOTAL	248	\$ 71.36	236	\$ 93.00	205	\$ 76.28

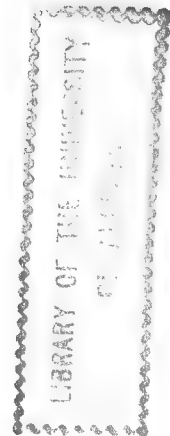
TABLE 6

TOP PRICES FOR BOARS AND SOWS—FALL SALES

	CALGARY			EDMONTON		
	1949	1950	1951	1949	1950	1951
York. Boar	\$145.00	\$225.00	\$155.00	\$175.00	\$235.00	\$360.00
York. Sow	155.00	215.00	200.00	235.00	200.00	200.00
Tam. Boar	200.00	125.00	130.00	175.00	115.00	145.00
Tam. Sow	80.00	155.00	75.00	90.00	115.00	125.00
Berk. Boar	82.50	105.00	75.00			
Berk. Sow	75.00		65.00			

ALBERTA SWINE MARKETING, 1945-1951 (INCLUSIVE) BY GRADE AND PER CENT WITHIN EACH GRADE

	"A"	"B"	"C"	"D"	Light	Heavy	Extra Heavy	"E"	Sows	Total No.	Sales Value Total
1946—Number	294,873 ^a	710,631	93,736	4,832	8,487	36,541	25,328	12,305	63,868	1,250,602	\$35,667,200.00
%	23.58	56.82	7.50	0.39	0.68	2.92	2.02	0.98	5.11	100.00	
1947—Number	242,720	600,174	78,648	3,720	10,072	38,565	38,975	11,662	80,686	1,105,222	37,621,756.38
%	21.96	54.30	7.12	0.33	0.92	3.48	3.53	1.05	7.31	100.00	
1948—Number	270,527	665,717	79,759	5,378	12,054	34,211	28,802	11,968	56,987	1,165,433	55,056,000.00
%	23.21	57.12	6.84	0.46	1.03	2.94	2.47	1.04	4.89	100.00	
1949—Number	204,624	529,200	63,414	3,702	8,752	26,989	24,912	9,697	53,427	924,717	44,533,403.01
%	22.13	57.22	6.86	0.40	0.95	2.92	2.69	1.05	5.78	100.00	
1950—Number	240,179	541,106	60,294	5,352	13,436	18,535	16,958	9,600	54,138	960,608	42,305,176.00
%	25.00	56.32	6.28	.40	0.56	2.03	1.77	1.00	5.64	100.00	
1951—Number	240,605	516,569	64,057	4,888	10,121	28,703	24,558	10,361	57,921	957,773	49,411,433.00
%	25.12	53.83	6.69	.51	1.06	3.00	2.56	1.08	6.05	100.00	



Sheep:

Sheep production in Alberta has shown a stronger undertone during the year. There is definite evidence of new flocks being established and old ones increasing in size. No doubt the new Coyote Control Policy inaugurated by the Department last spring, coupled with stronger wool and lamb prices, contributed to this optimism in sheep production. Demand for older breeding ewes was very keen during November and December. Many prospective buyers were referred to source of supply for direct purchases of breeding stock.

There was a sharp decline in sheep and lamb exports to the United States in 1951. The upward price trends on the home markets for lambs has adversely affected export trade. Canada exported close to three million pounds of mutton and lamb (meat) to the United States this year—a slight increase over last year.

The finer Canadian raw wool averaged around 60 cents per pound. Good lambs ranged from \$27.50 to \$36.50 per cwt. The bulk of feeder lambs were moving at \$32.00 to \$34.00 per cwt. Grade breeding ewes sold from \$20.00 to \$40.00 per head, depending on age and quality.

There are approximately 57,800 feeder lambs and 5,700 feeder ewes in Alberta feedlots this year, compared to about 110,000 ewes and lambs in 1949 and 75,000 in 1950.

Export trade to the United States in pure bred sheep was not as keen as in previous years. Prices were slightly lower than in 1950.

Alberta wool grading regulations inaugurated in 1949 are operating very satisfactorily. The grading of wool is carried out by the Federal Wool Graders.

SHEEP IMPROVEMENT POLICY

Under the Sheep Improvement Policy, pure bred rams are being placed at cost with prepayment of shipping charges to eligible applicants. Two new, or approved breeds, Romnelet and Columbia rams, were added and made available under the Policy this year. Both breeds are white faced, medium fine wool and are especially suited to range conditions because of their flocking instincts and hardiness to adverse climatic conditions.

Sheepmen not qualifying for rams under the Policy may obtain rams and ewes under the Live Stock Listing Bureau.

The placement of rams and ewes under the two policies are tabulated hereunder:

Year	Live Stock Listing Bureau Rams	Rams	Imp. Policy Rams	Total Rams
1948	52	1	39	40
1949	..	3	28	28
1950	..	..	22	25
1951	..	1	21	21
	..	..	52	53

The total rams placed in 1951 consisted of 7 Hampshires, 29 Suffolks, 2 Cheviots, 3 Romnelets, 5 Columbias, 3 Corriedales, 1 Oxford and 2 Rambouillets.

TABLE 1
ALBERTA SHEEP POPULATION—JUNE SURVEY

1945	976,900	1949	441,800
1946	666,800	1950	414,500
1947	613,800	1951	416,600
1948	448,600		

TABLE 2
ALBERTA COMMERCIAL SHEEP MARKETING AND VALUES

Year	Stock Yards	Plants	Direct Export	To Country Points	Total	Value
1945	75,556	196,836	56,562		328,954	\$2,921,112.00
1946	83,515	214,574	1,671		289,183	3,053,772.48
1947	84,952	202,560	1,475		299,564	2,917,800.00
1948	49,117	143,268	23,347		215,732	3,063,531.85
1949	45,941	91,177	28,032	7,162	172,312	2,969,056.98
1950	36,520	59,283	68,323	4,051	168,177	3,745,302.00
1951	36,062	51,658	5,044	4,160	96,924	2,674,386.00

TABLE 3
EXPORT OF PURE BRED SHEEP FROM ALBERTA TO U.S.A.

Year	No. of Head
1945	1,061
1946	1,124
1947	1,938
1948	1,453
1949	998
1950	1,197
1951	

TABLE 4
CALGARY SUMMER SALE OF STUD RAMS AND EWES

Sold	Year of Birth	Breed	RAMS			EWES		
			No.	Av. Price	Top Price	No.	Av. Price	Top Price
1950	1949	Suffolk	6	\$210.00	\$350.00	10	\$100.00	\$205.00
	1949	Hampshire	16	186.25	675.00	10	142.50	350.00
	1950	Hampshire	1	65.00	65.00			
1951	1950	Suffolk	4	76.25	115.00	2	50.00	50.00
	1951	Suffolk	10	105.00	160.00	8	148.75	250.00
	1950	Hampshire	14	173.57	1000.00	10	116.50	180.00
	1951	Hampshire	3	113.33	150.00	2	62.50	65.00

TABLE 5
CALGARY PURE BRED SHEEP—FALL SALE

Breed	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Hampshire Ewes (1 year)	46	\$33.38	25	\$46.64	22	\$65.27
Hampshire Ewes (L)	20	36.95	12	50.67	5	71.60
Suffolk Ewes (1 year)	111	29.29	19	95.00	93	55.59
Suffolk Ewes (L)	55	37.06	40	98.75	67	68.73
Southdown Ewes (1 year)	7	31.64	3	43.67	4	53.75
Southdown Ewes (L)	3	36.33				
Cheviot Ewes			19	45.58		
Rambouillet Ewes	6	19.00				
	248	\$42.00	118	\$72.25	191	\$61.70
Hampshire Rams (1 year)	30	\$50.15	8	\$102.94	18	\$70.14
Hampshire Rams (L)	57	48.21	24	97.92	31	60.32
Suffolk Rams (1 years)	36	51.17	21	79.17	38	76.38
Suffolk Rams (L)	133	50.61	99	90.81	151	66.67
Corriedale Rams	9	63.06	2	100.00	9	155.55
Rambouillet Rams						
Cheviot Rams	8	43.56	20	59.00	18	37.22
Southdown Rams (1 year)	4	33.75	7	45.00	8	48.75
Southdown Rams (L)	7	24.57				
TOTAL	284	\$49.48	181	\$86.55	273	\$67.41
Grade Ewes	59	19.29	100	27.80		

DEPARTMENT OF AGRICULTURE

TABLE 6
EDMONTON PURE BRED SHEEP—FALL SALE

Breed	1949		1950		1951	
	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Suffolk Ewes	49	\$27.58	88	\$50.94	41	\$70.48
Oxford Ewes	1	27.50	2	25.00	2	43.75
Shropshire Ewes	96	38.77				
Southdown Ewes	8	38.75				
Cheviot Ewes			2	33.50	2	65.00
Hampshire Ewes			5	41.20	1	57.50
TOTAL	154	\$35.13	97	\$49.55	46	\$78.16
Cheviot Rams	7	33.93	12	34.79	7	57.85
Suffolk Rams	112	41.96	73	57.23	86	80.20
Oxford Rams	6	24.17	4	56.88	4	56.25
Shropshire Rams						
Southdown Rams	1	25.00			2	70.00
Hampshire Rams	16	37.50	17	40.59	7	74.64
TOTAL	296	\$37.56	106	\$52.00	106	\$77.26
Grade Ewes						

TABLE 7
CANADIAN EXPORT OF SHEEP AND LAMBS

	To Great Britain No.	Value	To United States No.	Value	Total Export No.	Value
1947			5,666	\$ 108,752	6,048	\$ 186,933
1948			51,407	805,434	51,909	815,407
1949			40,863	890,715	41,410	897,800
1950			87,140	1,939,558	87,648	1,952,132
1951			31,387	1,072,332	31,727	1,078,406

TABLE 8
CANADIAN EXPORT OF MUTTON AND LAMB

	To Great Britain lbs.	Value	To United States lbs.	Value	Total Export lbs.	Value
1947	3,608,800	\$ 687,540	200	\$ 50	4,568,700	\$ 977,763
1948	1,569,000	269,703	2,784,500	1,125,181	5,056,100	1,645,934
1949			3,601,100	1,551,822	3,955,900	1,709,109
1950			2,665,800	1,346,555	2,760,700	1,402,215
1951			2,677,700	1,657,845	2,737,200	1,697,897

CANADIAN IMPORTS OF MUTTON AND LAMB

Imported from:	1951	1950	1949	1948	1947
United Kingdom	7,660	3,985	1,450	600	
United States	51,877	42,249	26,425	52	2,311
Australia	1,839,748	428,431			
New Zealand	1,545,839	11,328			
Other Countries	54,080				
TOTAL	3,499,204	485,993	27,875	652	2,311

GENERAL**PREDATORY ANIMAL CONTROL**

The problem of coyote and other predatory animals preying upon sheep, poultry and new born calves in certain areas became so serious that the Government decided to inaugurate a more practical control policy. The responsibility in the control of predators was divided between the Department of Lands and Forests and the Department of Agriculture. The latter assumed the responsibility in the settled areas and the former in the Provincial Forest Reserves.

On the instruction of the Deputy Minister early in January, the writer, accompanied by D. L. Steed, District Agriculturist from Cardston and J. Kovach, a ranger representing the Department of Lands and Forests, proceeded to Havre, Montana, to attend a school and learn at first hand of the practical methods used in that State for the control of predators and coyotes in particular.

Upon return to headquarters, full report was made to the Department on the subject of coyote control in Montana and elsewhere. Considerable time was necessary to prepare the policy which now requires the co-operation of the Department, the Municipalities and the farmer or stockman on the land.

In view of the widespread perpetual coyote problem in the Province, it was considered advisable to declare coyotes as a pest under the Pest Act and to place administration under the Field Crops Branch which administers that Act.

Considerable time was required to set up equipment and train Field Crops personnel in the handling of cyanide guns and in the injection of 1080 poison into horse meat bait.

The Coyote Control Programme is under the supervision of W. A. Lobay, Supervisor, Crop Protection and Pest Control in the Field Crops Branch. Mr. Lobay will report on the details of his activities in this field from the time he assumed responsibility of Coyote Control work in Alberta.

Horses

The horse population continued to decline. The only sale held was at Calgary where 138 head sold at an average price of \$97.50 which figure was double the 1950 average. Demand for slaughter horses increased and prices advanced slightly. A number of stores which retail horse meat for human consumption were opened in Canada with the first being opened at Edmonton. Meat to these stores is largely supplied from the inspected slaughterings from the Edmonton and Swift Current plants of the Canadian Co-operative Marketing Association. This Association slaughtered 15,506 head at the Edmonton plant, compared to approximately 13,000 in 1950.

There is considerable evidence that demand for good horses is increasing and the population has been reduced to a point where this demand may result in more favourable prices for good work horses.

Stallion Enrolment

As in the previous year, interest in stallion enrolment centered mainly in light horses.

The following table shows 83 stallions enrolled as compared to a total of 80 in 1950.

Breed	Enrolled	Inspected	Class "A"	Class "B"	Disqualified
American Saddle	5	.	.	.	.
Arabians	2		.	.	.
Belgians	5	.	.	.	.
Clydesdales	2		.	.	.
Hackneys	1	.	.	.	.
Palominos	14	1	1	.	.
Percherons	20	5	4	1	.
Standard Breds	1	.	.	.	.
Tennessee Walking Horse	.	.	.	.	.
Thoroughbreds	33	6	1	5	.
TOTALS	83	12	6	6	.

Royal Winter Fair, Toronto

An exhibit of Alberta live stock totalling 11 carloads made up of 23 horses, 85 cattle, 10 sheep and 19 swine, owned by 45 exhibitors was selected through the direction of the Alberta Live Stock Board and shipped to the 23rd Royal Agricultural Winter Fair which was held November 13th to 21st.

The shipment was handled by the Canadian Pacific Railways and a satisfactory run was made both ways. A change in freight from the previous year was the 25 per cent reduction on return shipment under Canadian Freight Association Tariff number 22C, which came into effect May 15th, 1951.

Freight charges to Toronto and back were paid as follows: 75 per cent by the Canada Department of Agriculture and 25 per cent by the Alberta Department. In addition, the Alberta Department paid decking and partitioning costs and feed costs from points of assembly until the stock was returned to points of assembly.

L. M. Rye of North Edmonton acted as supervisor of the entire shipment.

The following awards were received on exhibits:

	Horses	Cattle	Sheep	Swine	Total
Grand Champion	1	2	.	.	3
Reserve Grand Champion	2	1	.	.	3
Senior Champion	1	1	.	.	2
Reserve Senior Champion	2	.	1	.	3
Junior Champion	1	1	.	.	2
Reserve Junior Champion	.	2	.	.	2
Championships	3	4	.	.	7
Reserve Championships	2	4	1	.	7
1st prize	10	10	3	.	23
2nd prize	7	11	2	1	21
3rd prize	7	10	2	.	19
Other prizes	10	45	5	9	69
TOTAL	46	91	14	10	161

The grand champion awards were as follows: Grand Champion fat steer was won by the University of Alberta, with a Shorthorn steer of their own breeding "Earl U.A." The Grand Champion Hereford female was won by W. J. Edgar of Innisfail with a heifer of his own breeding "Miss Advance A Domino 35E." The Grand Champion Palomino mare was exhibited by Miss Gloria Klaver, Calgary.

The showing made by Alberta exhibitors in the steer classes was outstanding. In addition to the University of Alberta grand champion, Frank Radau of Bowden had the Champion Hereford steer, Ed Noad of Claresholm had the Reserve Champion Hereford steer and Lawrence Kallal of Tofield had the Reserve Champion in the grade or cross-bred class.

The Sale of Stars was held for the second year. Hereford, Aberdeen Angus and Shorthorns were sold in separate sales. Sale results are as follows:

	No. Sold	Av. Price
Shorthorn	34	\$1,234.00
Hereford	21	1,105.00
Aberdeen Angus	28	926.00

The Stock Inspection Act

While cattle numbers marketed was lower than in 1950, the high value accentuated the need for inspection. Inspection staffs were maintained at Edmonton, Calgary, Lethbridge and Winnipeg with Deputy Inspectors at Pincher Creek, Medicine Hat and Lloydminster.

A new Stock Inspection Act came into force on July 1st, replacing the old Act entirely. The new Act is more closely designed to deal with more recent developments such as increased feedlot activity, increase volume of stock hauled by truck and changes in the movement of shipments.

Inspections for the year totalled 607,127 which is a decrease of 12 per cent from 1950 inspections. As in two previous years, a heavy run of marketing was experienced during the summer months.

Services from the Branch in investigating proper ownership of estrays was continuous. Carelessness and error in the application of registered brands and some use of unregistered brands continues to cause inconvenience to both the Inspectors and shippers.

Acceleration of marketing methods has increased the duties of Inspectors.

On May 9th, a meeting was held in Edmonton, attended by brand and stock inspection officials of Saskatchewan, Alberta and British Columbia. This meeting resulted in a better understanding of mutual problems and smoothing out some procedures that had given trouble in previous years.

In June, the Live Stock Commissioner attended the Western States Brand Conference at Billings, Montana and after learning first hand the U.S. problem with Canadian brands, was able to make minor changes in inspection procedure to facilitate the movement of Alberta cattle to the various States.

The Brand Act

Interest in the registration and renewal of brands remained high.

During the year there were 1,804 brands recorded consisting of 1,695 cattle, 108 horse and 1 sheep. Two hundred and sixty transfers were registered. There were 4,628 brands renewed (3,835 cattle, 782 horse, 5 sheep and 6 poultry). Strays, searches and certified extracts numbered 322. Five hundred and thirty-two Butcher's and Hide Dealer's licences were issued; making a total of 7,546 transactions.

The approximate number of brands in good standing are as follows:

Year	1948	1949	1950	1951
Cattle	19,894	21,040	22,231	23,928
Horse	6,666	6,793	6,800	6,858
Poultry	27	31	26	22
Sheep	23	23	18	19
Fox	41	48	17	17

The Alberta Live Stock and Live Stock Products Act

During the year a total of 763 live stock dealer licenses were issued. These were made up of 159 agents and 604 dealers. Licensing of wool dealers was continued and the marketing and grading of wool was carried out without difficulty. Licenses were issued to 31 buyers and collectors and to 7 warehouses.

One inspector operating part-time under this Act carried out a number of investigations and obtained several convictions for violations of the live stock dealer regulations. Some live stock dealer licenses were cancelled and a number of applications refused.

Domestic Animals (Unorganized Territory) Act

Some new pound districts were established and a number of alterations made in existing pound districts.

An amendment to this Act doing away with the thirty day redemption clause for horses helped greatly to facilitate the movement of unclaimed horses through the pounds and was enthusiastically received by poundkeepers. Loose and wild horses in some areas continue to be a problem.

Pure Bred Sire Area Act

Added interest in a more permanent type of live stock improvement was evidenced by receipt of petitions from the Municipal Districts of Athabasca No. 103 and Vermilion Valley No. 71 with resolutions requesting formation of Pure Bred Sire Areas in these Municipal Districts.

Excellent co-operation and assistance from members of the R.C.M. Police continued as in former years. Assistance from the Highway Traffic Board Inspectors in enforcing regulations relating to truck movement of stock was continued.

Assistance and co-operation received from these two groups as well as from sales organizations, breed associations and the live stock trade in general is greatly appreciated and hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner

L. M. Silcox, Supervisor, Dairy Factory Inspection

J. B. Linneboe, Supervisor, Dairy Branch Laboratory

R. P. Dixon, Supervisor, Dairy Cattle Improvement

B. J. McBain, Supervisor, Dairy Cost Study

L. H. Arnold, Supervisor, Frozen Food Locker Plants

A. F. Bennett, Dairy Statistician

GENERAL REVIEW

In reporting the activities of the Dairy Branch it is necessary to refer briefly to conditions within and affecting the Industry serviced by the Branch. In this way changes in the amount and nature of the work performed can be more readily understood.

The production of milk during 1951 showed a decrease of 2.5% reducing the total quantity of 1,652,941,000 lbs. While this decrease is small it does indicate a definite trend in agricultural practices. Pasture conditions were exceptionally good throughout the season, however, poor haying weather and a very wet fall not only delayed, but prevented harvesting in many cases, and this did not permit the usual fall pasturing of stubble fields. The wet fall with early snow was responsible in many cases for shortages of feed grain and bedding when milk cows were put into winter quarters earlier than usual.

The number of cows kept for milk purposes again showed a substantial decrease and at June 1st the number was estimated at 292,400 which not only is a reduction of 15,400 from the previous year, but is less than for any year since 1920. Alternative opportunities which appeared to offer greater remuneration with less detailed farm labour, combined with the fact that dairy cattle could be sold at high prices for beef, were the main factors responsible for less interest in dairying. The production per cow increased during 1951 and for the first time in the history of the province we find the average production in terms of butterfat exceeding 200 pounds.

There was some change in the utilization of milk. The overall decrease was reflected by decreases of 7.3% in creamery butter production and 29.2% for factory cheese. Other manufactured products such as ice cream and concentrated milk using relatively small percentages of the total milk supply showed slight increases.

Increased urban population was mainly responsible for an increase of 6.8% in the milk and cream sold for fluid purposes. The quantity fed on farms was estimated to be up 4.1% and this may point to an increased number of milk cows in the future.

Prices for all dairy products advanced somewhat during the year. Creamery butter prices rose from 53 to 61 cents, but it is still 5c below the record price established in 1948. The total value of all products reached an all time high of \$57,307,000,

over half a million dollars above the previous high value of 1948. The principal reason for the marked increase in value in change in milk utilization in recent years. Less milk is going into the cheaper products such as butter, while that going into the bottle (the top price product) has shown substantial increases.

The quality of both creamery butter and factory cheese showed a slight improvement during the year to establish new provincial records.

PRODUCTION AND VALUES OF DAIRY PRODUCTS 1951

The following table on production and values is included to illustrate the size and diversity of dairying in Alberta:

(PRELIMINARY)					
Product	Quantity	Milk Equivalent lbs.	% of Total Milk	Average Unit Price	Total Value
Creamery Butter, lbs.	28,960,000	678,533,000	41.0	\$.615	\$17,810,000
Farm Dairy Butter, lbs.	6,050,000	141,752,000	8.6	.575	3,479,000
Cheddar Cheese, lbs.	2,080,000	23,171,000	1.4	.395	822,000
Net increase in processing					140,000
Ice Cream, *gals.	2,076,000	37,368,000	2.3	1.56	3,239,000
Miscellaneous Factory Products		31,032,000	1.8		2,169,000
Milk Fluid Sales (including processing charges)		239,235,000	14.5	5.42	12,969,000
Cream as Milk Fluid Sales (including processing charges)		73,850,000	4.5	3.97	2,931,000
Milk and Cream Farm Home Consumed		196,000,000	11.9	2.59	5,076,000
Milk Fed Farm Animals		232,000,000	14.0	2.59	6,009,000
Skim milk and Buttermilk for Human Consumption (including processing charges)	6,812,000			1.45	99,000
Skim milk and Buttermilk for Animal Feed, etc., lbs.	768,277,000			.33	2,535,000
Whey, lbs.	17,412,000			.165	29,000
TOTAL		1,652,941,000	100.0		\$57,307,000

ESTIMATED FARM CASH INCOME FROM DAIRY PRODUCTS 1951

The following tabulation sets forth the quantity, value and form in which the raw products from the farm were marketed:

(PRELIMINARY)				
	Milk or Butterfat Pounds	Price		Value
Butterfat for Creamery Butter	23,747,000	\$.636	per lb.	\$15,108,000
Farm Dairy Butter Sold	313,000	.575	per lb.	180,000
Milk and Butterfat for Ice Cream (milk basis)	37,368,000	2.587	per 100 lbs.	967,000
Milk for Cheesemaking and Concentrating	54,203,000	2.919	per 100 lbs.	1,582,000
Milk Fluid Consumption	239,235,000	4.37	per 100 lbs.	10,458,000
Cream as Milk, Fluid Consumption	73,850,000	2.92	per 100 lbs.	2,155,000
				\$30,450,000

DAIRY MANUFACTURING

Creameries

Ninety-two Creameries operated during the year. This was the same number as in 1950, and the production of creamery butter was 28,960,000 pounds, a decrease of 7.3% under 1950, and the average output per plant was 314,783 pounds.

The Central Creameries Ltd., Calgary, sold their branch at Sundre on April 1st to Mr. R. Morris, who had been the local man-

ager in recent years. It is now operated under the name of Sundre Creamery Ltd. The Carstairs Creamery changed ownership on September 15th when Mr. C. C. Gillespie sold the creamery to Mr. K. Winding, formerly of Ponoka.

The Northern Alberta Dairy Pool Ltd., Edmonton, installed Cherry-Burrell Gold'n Flo Continuous Buttermaking equipment, which is the first continuous machine to be used commercially in Canada. The first butter was manufactured at Edmonton on April 27th. The continuous method of making butter is the first real revolutionary change that has taken place in the creamery business since combined churns and workers were introduced. This method differs from the conventional churning method where butter granules are formed by agitation. Here the cream is heated and the butterfat concentrated in a special high speed separator to approximately 90% butterfat. Following pasteurization by means of a vacreator and standardization, the butter is formed by sudden chilling of the concentrate. The working is accomplished by forcing the butter through small orifices in a steel plate. Stainless steel equipment is used throughout.

Cheese Factories

Only 10 cheese factories made cheddar cheese during the year. The Linden Co-op Dairy Ass'n. did not reopen their branch at Sunnyslope, nor did the Central Alberta Dairy Pool reopen the Neapolis plant. The Woodland Dairy Company Ltd. decided against rebuilding the factory at Glen Park which was destroyed by fire in May, 1950, and the Clover Leaf Cheese Company at Calgary did not manufacture any cheddar cheese.

The production of cheddar cheese was 2,080,000 pounds, a decrease of 29.2% under the previous year. The average output per factory was 208,000 pounds which is slightly below that of 1950. Milk deliveries to cheese factories were considerably below 1950. The milk formerly delivered to Neapolis was diverted to the condensery, and a larger portion of the milk delivered to other factories was transferred to milk distributing plants.

Prices for cheddar cheese were good during the year and Alberta prices were 9 to 10 cents above those paid for cheese in Ontario to fill the British Contract. To supply the domestic market a considerable quantity of cheese was imported from New Zealand.

Dairies

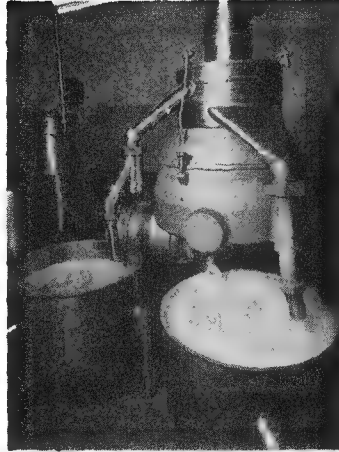
Seventy-three milk pasteurizing plants are now operating in the province. The Sparkle Dairy, Redwater, commenced operation early in June and was the only new plant opened during the year. The Leduc Dairy, Morinville and Larwill Dairy, Okotoks, discontinued business. Wellman's Dairy, Waterton Lakes, was purchased by Purity Dairy Lethbridge, who closed the plant and now supply this market from Lethbridge. Randall's Dairy at High Prairie changed ownership and is operated under the name of High Prairie Dairy.

Owing to a decline in local milk production in many rural areas, operators experienced difficulties in getting adequate supplies to meet their requirements and found it necessary to purchase milk from outside points.

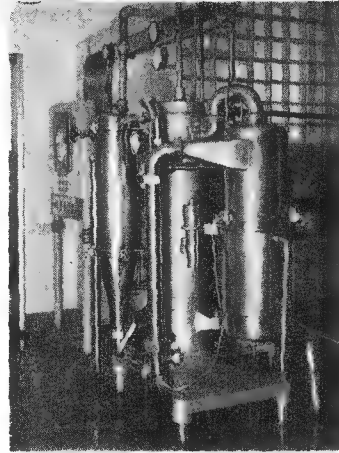
CONTINUOUS BUTTERMAKING EQUIPMENT

**Installed at Northern Alberta Dairy
Pool Plant, Edmonton**

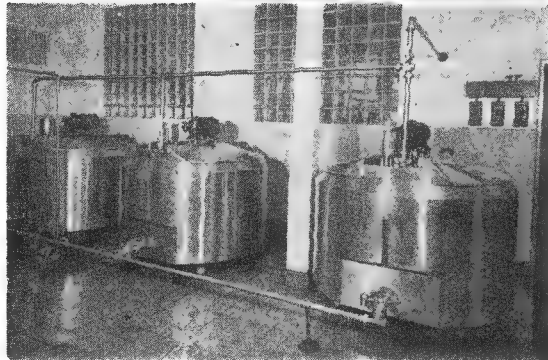
1. Special industrial separator concentrates butterfat content of cream to approximated 88-90%. Tank at right receives skim milk while tank at left receives concentrated cream.



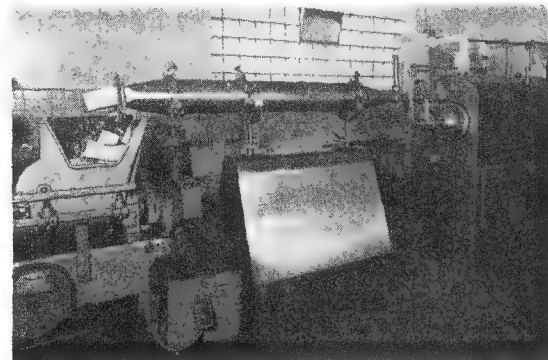
2. This photo shows the vacreator which pasteurizes the concentrated cream.



3. Composition control vats where standardization takes place. Special agitators keep the butter constituents thoroughly mixed.



4. This photo shows the chiller worker at extreme right, the texturator in the center, and the hopper of the automatic printer and wrapper on the left.



Quality of Dairy Products

For many years one of the principal activities of the Dairy Branch has been to improve the quality of dairy products. This policy has resulted in finding a ready market for surplus products and assuring the producer of the highest possible returns.

During 1951 the quality of cream received at creameries showed a slight improvement, 97.4% graded No. 1 or better as compared to 96.8% in 1950. The usual extension methods of leaflets, meetings, field days and personal interviews were used to improve cream quality. The percentage of cream classified in each grade during 1951 was as follows: Table, 1.0; Special, 55.4; First, 41.0; Second, 2.5; and Off Grade .1.

There was still a considerable spread between the price paid for first and second grade cream. This averaged 12c per pound butterfat during the year and was due to lack of interest in under-grade butter in Western Canada. To place this butter on available markets in Eastern Canada subjected the product to high transportation charges. The quality of creamery butter reached an all time high with 94.4% classified as first grade and 45.6% scoring 93 points and over. This represents an improvement of 1.1% in first grade and 4.6% in 93 score. The quality of cheddar cheese also showed an improvement of 2.5% in that qualifying as first grade.

Exhibits of butter and cheese sent to leading Canadian exhibitions again brought honor and distinction to the Province. A total of 177 prizes against the strongest competition Canada could offer speaks well for the quality of our products.

Quality Competitions

To stimulate and maintain interest in quality dairy products this Branch in co-operation with the Alberta Dairymen's Association has arranged a number of competitions for manufacturers of butter, cheese and ice cream. These competitions are largely based on the work being done at every plant and throughout the whole year. In this way the makers are constantly aware that any indifferent work on their part may effect their yearly standing in the competitions. Certain competitions such as workmanship for creamery butter, involving records of composition on all churnings, creates a tremendous task for the Dairy Branch personnel. This is considered a very worthwhile activity not only by officials of the Branch but by operators of dairy plants who are constantly striving for greater efficiency and higher quality products. Little mention has been made of this Branch function in recent reports although the work has been continued and expanded in recent years.

Check Weighing of Butter

Fewer boxes of butter were check weighed during the year than for 1950 due mainly to fewer purchases by the Dairy Products Board. A total of 6,155 boxes representing 3,104,542 pounds of butter were check weighed which included a few boxes of whey butter.

Diploma Course in Dairying

The six month Diploma Course in Dairying was resumed on November 5th after a lapse of one year. Only 12 students were

registered. The first five months will be spent at the University of Alberta on strictly dairy subjects, and the last month on plant engineering at the Vocational Training School, Calgary. This is the sixth course to be offered since the war, all of which have been the joint responsibility of the Department of Dairying, University of Alberta, the Dairy Branch, Alberta Department of Agriculture, and Canadian Vocational Training.

DAIRY FACTORY INSPECTION AND INSTRUCTION

The Dairy Branch field staff consists of 10 regularly appointed city and district inspectors, including one cheese specialist. All are also assigned frozen food locker plant inspection duties. Following the resignation of C. A. McBride, who has accepted a position in the U.S.A., A. O. Aspeslet was appointed to the staff in September and will work in the Red Deer district.

Inspections of all dairy plants for the year totalled 1662. In the routine work of checking grades on cream received at creameries and tests on both cream and milk received at dairy plants, 75,979 cans of cream were officially graded and 23,756 samples of milk and cream were officially tested. Special emphasis is being applied to proper sampling methods, accurate testing procedure and to preservation of samples for regulation periods. Practicable quality tests including Methylene Blue, sediment and acidity are used extensively as a basis for quality improvement on raw products received.

Samples for bacteriological and chemical analyses, are lifted at dairy plants and forwarded by inspectors to Dairy Branch Laboratory (see Laboratory Services). Increasing need of this service arises at most plants. It provides a reliable guide to most effective results in production of best possible quality in finished products. This field is concerned with the nature of water supplies, condition and suitability of equipment, efficiency and accuracy of procedure in processing and the effective sanitizing of equipment and plants generally.

In co-operation with District Agriculturists, field days and meetings are arranged and attended at outlying points by Dairy Branch personnel. Dairy product grading contests and quality competitions for farm products are also organized and judged at points where facilities allow. Official judging teams are also provided by the Dairy Branch for competitions held annually in connection with the Alberta Dairyman's Association Convention.

LABORATORY SERVICES

As will be seen from the following summary a large number of samples consisting of a variety of material, has been submitted to the laboratory for examination during 1951.

Butter samples for moulds and yeasts	3,347 samples
Water samples	51 "
Bacteriological creamery surveys (19 surveys)	122 "
Butter samples for pH	1,408 "
Milk samples for mastitis control service	5,166 "
Milk plant control service	3,113 "
Milk samples for cow testing service	5,472 "
Egg products	276 "
Miscellaneous	292 "
	19,247 samples

One of the chief functions of the laboratory is to provide a check on the standard of sanitation maintained at the creameries as revealed through the mould and yeast count of the finished butter.

On the whole creameries have done a commendable job of maintaining the high standard of previous years and, as a result, very little difficulty has been experienced during the past year from defects associated with faulty sanitation.

The assistance of the dairy inspectors in lifting the necessary samples, in making bacteriological surveys at plants needing this service, and in interpreting the result of the analysis to the creamery personnel has been of much value and greatly appreciated by the laboratory.

The keeping quality and the economy in the manufacture of butter is also affected by the chemical composition of the butter and particularly by the reaction of the butter serum. Since the creameries are not in a position to make pH determinations, the laboratory has made it a point to see that all plants had sufficient churnings examined to form an opinion as to the effectiveness of their neutralizing procedure.

pH determinations were made on 1408 churnings and the following table shows the percentage of these churnings within the various divisions of the pH range:

pH Range	PERCENTAGE						
	1945	1946	1947	1948	1949	1950	1951
Over 7.7	6.6	1.6	3.5	3.4	5.0	5.9	8.7
7.3 to 7.7	16.6	27.3	19.2	17.9	32.6	33.8	39.7
6.7 to 7.2	46.3	54.8	64.5	67.6	55.7	55.4	46.3
6.2 to 6.6	25.3	14.7	11.0	9.1	4.7	4.0	4.5
Below 6.2	5.2	1.6	1.9	2.0	2.0	0.9	0.8

It is of interest to note that over the years there has been a gradual and fairly consistent shift towards a milder, less acid type of butter. To stimulate greater interest in careful neutralizing a competition based on the yearly results of pH determinations was inaugurated.

There has been a significant decrease in the number of samples received under the mastitis control program. The immediate reason for this is that a project sponsored by twenty-five patrons of the Linden Cheese Factory, and in operation for the previous two years, was discontinued, and not enough new herds came under the program to make up the difference.

Since the incidence of mastitis is closely related to the economy of milk production and the quality of dairy products, it is most unfortunate that the program has not received better support from the herd owners.

The control service offered to milk plants has been widely accepted during the year and a number of pasteurizing plants at country points have submitted samples of their products at regular intervals throughout the year, for which service they are charged at the rate of one dollar per sample to defray expenses. The weekly milk plant laboratory control service was reduced somewhat when one of the Edmonton milk plants established its own laboratory facilities during the year.

The number of samples for butterfat content submitted under the cow testing program shows an increase for the year.

In addition a great deal of miscellaneous material has been received for examination. Some of this, for example, the 276 samples of egg melange, egg yolks, and egg whites, are not dairy products, but inasmuch as the analysis is essential to the industry and with no other laboratory available, this laboratory has given the service on a cost basis.

Numerous other services have been performed. The regular semi-monthly distribution to cheese factories of bacterial cultures used in cheese making has been continued as for previous years. The same holds for the preparation and distribution of solutions and indicators used in dairy plants and not readily obtained from other sources.

In addition to the regular work of the laboratory and as time permitted, a limited amount of investigational work was carried on, e.g., a study of the types of organisms associated with mastitis. The assistance to the Department of Animal Science, University of Alberta, in its study of the effect of prepartum milking as commenced in 1950 was continued and completed during the year.

C. Harke, Laboratory Technician for the past two years, resigned September 15th to continue studies towards a Masters Degree at the University of Saskatchewan. His place was taken by P. H. Regehr, a recent graduate of the Ontario Agricultural College, Guelph.

DAIRY CATTLE

The number of dairy cattle on Alberta farms, as determined by the June census of the Dominion Bureau of Statistics, was 292,400 head. This is a decrease of 15,400 from the same date last year, and the third consecutive year showing a decrease. Dairy cattle numbers have been reduced by 34,600 head, or 10.5%, during the last three years. High beef prices together with the favorable returns from other farm enterprises have been responsible for the reduction in dairy cattle numbers again this year.

A world record of production was established by the purebred Holstein cow, "Seymour Nora Ormsby," owned by H. L. Ahrens of Red Deer. Her production for two consecutive lactations was 57,975 pounds of milk, on twice-a-day milking. In addition to this, she is one of the few cows to produce over 100,000 pounds of milk in the first five lactations, on twice-a-day milking.

The Cattle Breeders' Section of the Alberta Dairywomen's Association sponsored the first Provincial Auction Sale of purebred dairy cattle at Red Deer on September 11th. All animals consigned were picked from prominent breeders' herds, by a selector named by each breed association. A total of 66 head were sold, all of them going to Alberta buyers, many of them into newly established purebred herds. The majority of animals were young heifers in calf, or young cows. The top-priced animal of the sale was a purebred Holstein consigned by Pickard & Clarke of Carstairs, which sold for \$935.00. It is interesting to note that this animal was a four year old daughter of Glenafton Rag Apple Architect, the bull used at the breeding centre at Olds. The sale was voted a success by the committee in charge and plans are going forward for its continuance on an annual basis.

A number of well established dairy herds were sold by public auction during the year. Two outstanding purebred Holstein herds were dispersed; Mr. Geo. Webb of Lethbridge and Mr. Lars Willumsen of Okotoks selling their entire herds on August 15th and October 15th respectively. The purebred Holstein herd of Mrs. Sommerville and Miss E. Smith was sold at Calgary on October 19th.

Two well known purebred Jersey herds were sold during the year, Mr. J. A. E. Brown of Conrich on April 11th and Messrs. M. D. and R. F. Carlyle, Calgary, on August 15th.

The following tabulation shows the average production of milk and butterfat for all Alberta cows, based upon the total quantity of milk produced, and the total cows kept, as reported for June 1st, 1951:

	1951	1950	1949	1948
Ave. milk production, lbs.	5,653	5,508	5,286	5,115
Ave. butterfat production, lbs.	203.5	198.3	190.3	184.1

While the above figures are partly determined by estimates for dairy cattle numbers and milk used on the farm, it can be seen that the average production per cow has increased every year since 1948. This higher production is indicative of a better type cow being milked, together with improved feeding and management practices.

Cow Testing and Herd Improvement

Testing centres at Edmonton, Camrose and Red Deer were in operation for testing milk samples for butterfat content of all herds under test. Of the 112 herds under test 48 were tested at the Dairy Laboratory, Edmonton, while 36 and 28 respectively were tested at the Camrose and Red Deer centres, by the local dairy inspector.

Field Activities

Farm visits to a number of herds under test were made by the Supervisor, at which time record analysis and feeding and management problems were discussed together with a checking of the testing program.

The Supervisor spent considerable time in the location, selection and purchase of both male and female dairy breeding stock during the year. Co-operation with the Live Stock Branch was given in securing the dairy bulls placed under the Cattle Improvement Policy. A total of 56 head of female dairy cattle were purchased during the year.

Considerable interest in loose-housing of dairy cattle was shown with several new loose-housing units being built during 1951. Visits with the Agricultural Engineer were made to discuss operation and management practices.

Dairy Field Days, radio talks, dairy meetings and Junior Dairy Calf Club activities were extension activities of the supervisor.

The following tabulation sets forth the average production of the herds under the Provincial Cow Testing Service.

	1951		
	*Plan I	**Plan II	Total
No. of Herds under test	67	45	112
No. of Cows under test	852	950	1,802
Ave. No. Cows per herd	12.7	21.1	16.8
Herd Average on basis of cow years (T)			
No. of cows years	593.65	609.35	1,203.00
Average Production Milk, lbs.	9,381	9,060	9,218
Average Production Butterfat, lbs.	348.5	320.2	334.2
Average Test			3.62

*Plan I—Daily weighing and monthly tests.

**Plan II—Computed records from one days' weighing and monthly tests.

(T) The total number of cows on test during the year is used in determining the herd average, except where new cows are placed on test, or a cow is sold or dies, in which case only that part of the year which she produces is used.

There were 5 less herds on test during 1951, but 51 more cows being tested than in the previous year.

Plan II proved to be more popular with the larger herds and accounted for the increase. For the first time there are now more cows under the Plan II system than under Plan I.

The average production of cows on test showed an increase of 406 pounds milk and 4.18 pounds of butterfat.

Each herd owner received a report showing the average of his particular herd, and the average of all cows under test. To assist in the interpretation of this report a pictorial graph showing the production for each cow was supplied. This emphasized to the herd owner the fact that each cow is a separate production unit, and drew attention to the necessity for intelligent breeding and culling, together with improved feeding.

Considerable time was spent in analyzing and checking the records to determine the winners in the "Greater Average Butterfat" and the "Herd Improvement" competitions. These competitions are based on the year's records and have done much to stimulate greater interest in record keeping.

Graded Certificates of production were supplied for all cows producing the required standards of production. There were 740 of these Certificates issued in 1951 as compared to 818 during the previous year.

There was an increase in the number of herds of 5 cows or more qualifying for the Honour Roll, with an average of over 300 lbs. of butterfat. Following is a list of the 64 herds which qualified during 1951, which compares with a total of 50 herds in 1950:

HONOUR ROLL, 1951

Name	Address	Ave. lbs. Butterfat	No. of Cows
Aarbo, J.	Elk Point	477.2	6
Alexander, W. W.	Picture Butte	393.4	14
Ashdown, C.	Ashmont	447.8	9
Bacon, G. R.	North Edmonton	346.4	21
Bailey, W. L.	Wetaskiwin	365.3	18
Boucher, J.	Therien	500.2	5
Brattberg, H.	Bentley	346.9	10
Choice Dairy	Medicine Hat	427.5	27
Christensen, J.	Ponoka	403.5	35
Congdon, L.	Camrose	440.4	14
Culshaw, R.	Sedgewick	317.1	6
Diggie, J.	Bentley	321.0	22
Erickson, J.	Bentley	386.4	14
Ferns, Alex.	Rimbe	304.1	16
Forbes, W. C.	Innisfail	325.0	7
Fulks, S. R.	Waskatenau	366.4	11
Gauvin, G.	St. Paul	326.3	9
Gould, S. P.	Rosalind	385.2	9
Hoeve, J.	Lacombe	347.9	10

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Name	Address	Ave. lbs. Butterfat	No. of Cows
Hudd, C. J.	Lacombe	368.5	27
Jensen, C. T.	Lacombe	305.1	21
Johnson, Arne	Camrose	415.8	15
Kamps, Albert	Lacombe	372.4	27
Karbaszewski, M.	Willingdon	375.8	6
Kay, A. R.	Stettler	465.6	24
Koetke, O. H. F.	Holden	337.5	17
Kelstad, O. N.	Armena	561.1	5
Meyers, Mrs. G. P.	Millet	363.7	17
Miller, G.	Vegreville	322.7	9
Alsen, A. T.	Bawlf	327.9	17
Olsen, M.	Bawlf	332.5	9
Paxton, J.	Innisfail	403.1	6
Perka, S.	Round Hill	376.7	10
Plante, H.	St. Paul	467.2	9
Poffenroth, W. C. and A. F.	Dewinton	395.6	32
Quantz, A. G.	Innisfail	446.43	5
Reinke, E.	S. Edmonton	340.9	8
Rife, G. E.	Clyde	315.5	14
Robertson, J. G.	Camrose	345.4	20
Rodwell, Mrs. T. C.	Tees	330.1	16
Rogers, Jack	Bentley	446.2	23
Ross, J. A.	Duhamel	392.1	5
Ross & Thompson	Millet	326.6	64
Roth, C. C.	Rochfort Bridge	345.4	10
Schultz, W.	Bashaw	306.3	16
Shepherd, R. M.	Erskine	410.5	13
Sisters Charity	St. Albert	365.7	49
Smiley, F.	Lavoy	349.0	9
Stannard Bros.	R.R. 2, S. Edmonton	551.2	38
Stauffer, H. E.	Tofield	370.9	7
Stelfox, A.	Daysland	453.8	6
Stollery, A.	Armena	355.3	7
Stolte, G.	Blackfalds	302.5	22
Terhorst, H.	Jarvie	338.4	8
Thesberg, N.	Innisfail	422.4	12
Turville, W. H.	Stettler	368.9	27
Vermilion School	Vermilion	439.2	25
Westmancoat, R. K.	Ryley	300.5	10
Wilkinson, C. H.	Clover Bar	371.2	24
Winsness, Wm.	Ryley	344.3	20
Wolfer, Mrs. J.	Perryvale	321.3	6
Zielie, W. E.	Lacombe	314.1	13
Zaneveld, P.	Blackfalds	346.5	6
Stolte, A. J.	Lacombe	320.7	11

DAIRY COST AND FARM MANAGEMENT SERVICE

The work in this division is handled by a staff of three with some part time help. Studies were continued in seven of the major fluid milk sheds of the province. These included Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer, Ponoka and Camrose, and all are under the Milk Control Board for price setting purposes.

There were one hundred and three completed accounts from these fluid milk farms out of approximately 120 farms studied. A special effort was made to close the books and compile the cost data in order that this information could be made available for Public Hearings on milk prices during November and December.

In addition to the fluid milk farms a new study was undertaken on mixed farms in the Leduc-Wetaskiwin area to cost the enterprises of hogs, beef, grain and dairying. There were sixty accounts set up for this study and it is anticipated that at least forty will complete their records being closed as at December 31st, 1951. The study will try to show the relative earnings from these various lines of production in addition to the levels of production and volume required for varying degrees of success.

The field work done at the farms is both research and extension in nature—research in gathering the facts of farming operations and trends by continuous studies, also the subsequent analysis and interpretation of the results. Extension work is done to improve the quality of the data and assist the farmer in the business control

of his affairs. Two calls per year are made to all farms under study.

Coloured slides have been prepared of farmstead layouts, buildings, tools and labour saving devices. These have proven to be of considerable interest in the extension work of disseminating information to individuals on the study or to groups interested in the results.

The office work and correspondence has continued to grow as the period of the cost studies extends. During the past 12 years over 1,400 farms have been costed. These covered eleven areas and seventeen different market groups. Consultations and discussions tend to consume more time as the results of the study become of greater interest to a larger number of individuals and groups.

Addresses, radio talks and educational displays covering a variety of topics were handled by the Supervisor and field assistant throughout the year. While the information secured from all types of farms is of considerable value to all extension workers it is anticipated that the information secured by the mixed farm study in the Leduc-Wetaskiwin area will have a wider application than data secured from fluid milk farms.

FROZEN FOOD LOCKER PLANTS

There were five Frozen Food Locker Plants constructed and put into operation by the end of the year. Two of these, at Lamont and Grimshaw, replaced the plants that were destroyed by fire in 1950. The new plants are attractive and modern in design and well equipped.

At the year end there were 146 plants in operation with 50,316 lockers installed, an increase of 1,669 lockers over 1950.

The high standard of service and operation in the majority of plants has been maintained. There were 813 inspections made by officers of the Branch during the year, an increase of 87 over 1950. Four operators were charged and convicted of non compliance with the Frozen Food Locker Act and Regulations made thereunder.

Approximately 300 attended the Seventh Annual Convention of the Alberta Quick-Freeze Locker Association which was held in the Palliser Hotel, Calgary, February 21st to 23rd inclusive. The programme consisted mainly of discussion clinics and practical demonstrations. The Bruce Robinson Electric Merit Award Shield was won by Sturdy's Quick-Freeze Ltd., Edmonton, F. R. Lidgate, Prop; The Canadian Quick-Freeze Ltd., Calgary, C. Ursenbach, Prop; and Hanna's Frozen Foods, Calgary, D. P. Hanna, Prop, placed 2nd and 3rd respectively. The scoring of the plants was conducted by officials of the Dairy Branch. Each operator received a detailed score on his plant along with the score of the winning plant. This information acts as a guide to the operators in improving the standard of their plant and service.

The competition for cured meats was keenly contested, Jensen's Frozen Foods, Lethbridge, won first place in both the Tenderized Smoked Ham and Bacon Sections, while Western Locker & Storage Co., Ltd., Medicine Hat, was first in the Standard Ham Section.

During the year the Supervisor addressed well attended public meetings for the official opening of the new plants, and special meetings at the Vermilion and Olds Schools of Agriculture. Meat cutting demonstrations were also conducted at a few of the agricultural short courses held during the year.

Following is a list of Frozen Food Locker Plants which commenced operation during 1951:

Jerry's Meat Market	Consort.
Grimshaw Meat Market	Grimshaw.
Paruk's Foodland	Lamont.
Central Alberta Dairy Pool	Neapolis.
Redwater Lockers Ltd.	Redwater.

The following statistics are tabulated from information received on monthly reports and covers the 12 month period ending December 1st, 1951. Similar statistics for the same period during the previous year have been included for comparison.

	1950		1951	
	Pounds	Percent	Pounds	Percent
Fresh Meats	9,713,597	75.3	10,253,713	74.0
Fish	122,192	.9	131,289	1.0
Poultry	814,869	6.3	1,064,800	7.7
Game Birds	75,465	.6	85,693	.6
Big Game	110,406	.9	117,677	.8
Cured Meats	1,419,175	11.0	1,486,556	10.7
Lard Rendered	155,569	1.2	163,576	1.2
Fruits	189,595	1.5	188,639	1.4
Vegetables	195,399	1.5	249,018	1.8
Miscellaneous	99,006	.8	118,936	.8
TOTAL	12,895,363	100.0	13,859,897	100.0

	1950	1951
Number of plants reporting	141	146
Number of lockers installed	48,647	50,316
Average number of lockers installed	345	345
Number of lockers rented, December 1st	43,802	45,757
Percentage of lockers rented, December 1st	90.0	90.9
Average pounds food stored per locker, with complete service	307.1	315.1
Average pounds food stored per locker, without complete service	176.4	190.3
Average poundage per locker, all plants	294.4	302.9
Average pounds per locker on the basis of lockers rented for 12 months	305.2	312.2
Inspections during the year	726	813

ALBERTA DAIRY STATISTICS

Supplement to Annual Report

MILK PRODUCTION AND UTILIZATION

Year	Total Milk Production in Million lbs.	Creamery Butter	Dairy Butter	Factory and Home-made Cheese	Miscellaneous Factory Products	Milk and Cream Consumed	Fed Farm Animals
1920	784	35.9	27.8	.6	.9	34.8*	.
1925	923	50.6	24.5	1.7	.5	22.7*	.
1930	1,077	38.5	25.8	1.2	.9	25.1	8.5
1935	1,384	39.1	22.0	1.3	.4	25.6	11.6
1940	1,671	41.8	21.0	2.0	1.5	24.9	8.8
1945	1,731	46.9	12.1	2.7	2.8	26.7	8.8
1950	1,695	43.2	9.6	1.9	3.7	28.4	13.2
1951 Preliminary	1,655	41.0	8.6	1.4	4.1	30.9	14.0

*Includes Milk otherwise used.

FARM CASH INCOME FROM DAIRY PRODUCTS (Estimated)

(Revised by Dominion Bureau of Statistics)

1926	\$ 8,097,000
1930	6,832,000
1935	6,755,000
1940	7,005,000
1945	20,037,000
1950	27,449,000
1951 Preliminary	30,450,000

TOTAL VALUE OF DAIRY PRODUCTS

Year		Year	
1900	\$ 546,476	1930	\$18,675,500
1906	2,000,000	1935	14,252,500
1910	7,855,761	1940	19,532,344
1915	15,896,586	1945	34,588,305
1920	34,000,000	1950	51,797,000
1925	23,002,000	1951 Preliminary	57,370,000

CREAMERY BUTTER PRODUCTION

Year	Creameries	Pounds Butter	Av. Output Per Creamery	Total	Selling Value Cents per lb.
1906	42	1,960,356	46,675	\$ 415,800	(21.21)
1910	60	2,238,078	37,301	575,000	(25.69)
1915	57	7,544,148	132,353	2,021,448	(26.79)
1920	53	11,821,291	223,043	6,555,509	(55.45)
1925	99	19,630,101	198,284	6,959,059	(35.45)
1930	92	17,716,744	192,573	4,968,227	(28.04)
1935	97	23,094,707	238,090	4,588,917	(19.90)
1940	95	29,796,520	313,647	6,647,604	(22.31)
1945	91	34,692,917	381,241	11,389,875	(32.83)
1950	92	31,238,000	339,543	16,809,000	(53.81)
1951 Preliminary	92	28,960,000	314,783	17,810,000	(61.5)

CREAMERY BUTTER PRODUCTION

	1950 Pounds	1951 Pounds	% Increase **Decrease
January	1,469,610	1,207,978	** 17.8
February	1,455,676	1,227,926	** 15.6
March	1,893,726	1,606,848	** 15.1
April	2,288,469	2,061,264	** 9.9
May	3,170,953	3,183,160	* 4
June	4,434,815	4,347,109	** 2.0
July	4,469,248	4,311,620	** 3.5
August	4,132,844	3,901,373	** 5.6
September	3,018,967	2,885,015	** 4.4
October	2,219,224	1,922,667	** 13.4
November	1,456,129	1,259,019	** 13.5
December	1,228,537	1,046,108	** 14.9
	31,238,198	28,960,087	** 7.3

CREAMERY BUTTER PRODUCTION

(By Regional Divisions)

	1950	1951	% Increase **Decrease
Northern, Twp. North of 47	15,362,994	14,529,882	** 5.4
Central, Twp. 34 to 47	11,156,248	10,005,833	** 10.3
Southern, Twp. 1 to 33	4,718,956	4,424,372	** 6.2
	31,238,198	28,960,087	** 7.3

GRADES OF CREAMERY BUTTER

Since May 1st, 1927, the grading of Creamery Butter has been a function of the Federal Department of Agriculture

Year	Total lbs. Graded	Percentage in First	Percentage in Second	Percentage in Third	B.T.G.	% 93 Score and over
1927	3,278,327	68.8	24.0	7.2		
1930	5,679,520	68.7	20.0	11.3		
1935	19,081,270	83.0	10.5	6.0	.5	
1940	27,243,216	88.1	7.1	4.4	.4	(55.8)
1945	31,771,600	88.6	5.7	5.4	.3	(45.1)
1950	30,561,496	93.3	5.3	1.0	.4	(41.0)
1951	28,035,392	94.4	4.2	1.2	.2	(45.6)

CHEDDAR CHEESE PRODUCTION

Year	Factories	Pounds Cheese	Av. Output Per Factory	Total	Selling Value Cents per lb.
1906	7	97,739	13,963	\$ 13,000	(13.30)
1910	11	220,000	20,000	27,500	(12.50)
1915	13	381,832	29,372	68,441	(17.93)
1920	7	398,750	56,964	110,355	(27.70)
1925	14	1,473,835	105,274	306,604	(20.80)
1930	8	1,035,352	129,419	175,392	(16.94)
1935	11	1,364,526	124,048	168,280	(12.33)
1940	18	2,705,853	150,325	385,584	(14.25)
1945	18	3,985,160	221,398	903,309	(22.67)
1950	14	2,940,000	209,975	1,030,000	(35.05)
1951 Preliminary	10	2,080,000	208,000	822,000	(39.50)

DEPARTMENT OF AGRICULTURE

CHEDDAR CHEESE PRODUCTION

	Pounds 1950	Pounds 1951	% **Decrease *Increase
January	177,950	119,844	** 32.7
February	174,451	111,451	** 36.1
March	235,522	137,034	** 41.8
April	225,755	159,885	** 29.2
May	347,404	247,552	** 28.7
June	433,794	323,964	** 25.3
July	440,688	311,362	** 29.3
August	375,801	281,826	** 25.0
September	220,139	172,726	** 21.5
October	145,825	94,986	** 34.9
November	81,763	48,232	** 41.0
December	80,559	71,033	** 11.8
	2,939,651	2,079,895	** 29.2

GRADES OF CHEDDAR CHEESE

Year	Total Lbs. graded	Percentage in each Grade				93 Score and over
		First	Second	Third	B.T.G.	
1938	1,531,530	57.8	41.3	.7	.2	(18.7)
1940	1,935,750	70.6	28.4	.9	.1	(23.0)
1945	3,869,325	82.0	17.6	.3	.1	(33.3)
1950	3,118,080	84.9	13.6	1.3	.2	(30.3)
1951	2,115,144	87.4	11.9	.7	.0	(33.9)

ICE CREAM PRODUCTION AND VALUE

Year	Quantity in Gallons	Price per Gallon	Value
1928	652,345	\$ 1.20	\$ 782,814
1930	637,196	1.21	768,225
1940	664,703	1.08	720,000
1945	1,072,000	1.20	1,284,000
1950	1,967,000	1.43	2,813,000
1951 Preliminary	2,076,000	1.56	3,239,000

GRADES OF CREAM IN PERCENTAGE RECEIVED AT CREAMERIES

Year	Table Grade	Special Grade	First Grade	Second Grade	Off Grade	Total lbs. Butterfat
1922	2.3	32.4	37.3	27.2	.8	10,185,277*
1925	1.7	39.0	47.1	12.0	.2	14,019,009*
1930	3.2	43.9	45.9	6.6	.4	15,187,266
1935	2.9	61.3	31.3	4.3	.2	19,561,318
1940	3.0	66.4	28.0	2.4	.2	25,347,571
1945	1.0	54.2	39.9	4.7	.2	29,286,577
1950	1.1	56.3	39.4	2.9	3.	27,119,080
1951	1.0	55.4	41.0	2.5	.1	25,292,232

*Quantity graded by Provincial Cream graders only, service commenced May 8, 1922.

SPECIAL GRADE BUTTERFAT PRICES
(F.O.B. Shipping Point)

	1951		1950		1949		1948	
	Cents	%	Cents	%	Cents	%	Cents	%
January	58.3	(4.4)	61.7	(4.9)	70.2	(4.6)	69.9	(4.6)
February	60.8	(4.8)	61.7	(5.3)	70.2	(4.6)	69.9	(4.6)
March	77.05	(5.6)	60.1	(5.7)	63.9	(5.3)	69.9	(5.6)
April	62.3	(7.5)	57.4	(7.2)	59.45	(6.6)	69.9	(6.7)
May	63.3	(10.9)	53.7	(9.7)	59.2	(10.0)	69.9	(9.3)
June	63.3	(14.6)	52.7	(13.8)	59.2	(13.4)	69.2	(14.4)
July	65.0	(14.5)	53.7	(14.6)	59.2	(13.8)	69.9	(14.5)
August	65.3	(12.9)	53.7	(12.7)	59.2	(12.9)	69.9	(13.3)
September	65.3	(10.2)	54.3	(9.5)	60.2	(10.4)	69.9	(9.9)
October	65.3	(6.3)	56.9	(7.4)	60.2	(7.7)	69.9	(7.3)
November	66.8	(4.5)	56.9	(5.0)	61.2	(6.0)	69.9	(5.4)
December	67.3	(3.8)	57.7	(4.2)	61.2	(4.7)	69.9	(4.4)
The Year	64.7	(100.0)	55.9	(100.0)	61.24	(100.0)	69.79	(100.0)

NOTE: The figures enclosed in brackets represent the monthly percentages of the cream receipts for the year.

MILK COW NUMBERS AND AVERAGE PRODUCTION

Year	No. Cows June 1st	Average Milk Pounds	Production Butterfat Pounds
1920	285,900	2,744	98.7
1925	391,100	2,957	106.5
1930	351,600	3,118	112.2
1935	453,800	3,125	112.5
1940	370,600	4,400	158.4
1945	376,400	4,596	165.5
1950	307,800	5,508	198.3
1951	292,400	5,653	203.5

A average of 3.6% is used to calculate the average butterfat.

STATISTICAL DATA RELATING TO MILK CONTROL

Submitted by the
BOARD OF UTILITY COMMISSIONERS
(A. T. Neale, Administrator of Milk Control)

The tables which follow relate to milk and cream supplied and sold for fluid consumption in the areas of the Province controlled by the Board of Public Utility Commissioners during the year 1951.

TABLE 1
PER CAPITA CONSUMPTION OF FLUID MILK, IN PINTS, MONTHLY FOR 1951
(To include Cream Consumption Converted to Milk Equivalent)
PINTS (PER DIEM)

Area	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	1.00	1.05	1.05	1.07	1.07	1.06	.858	.826	.856	.886	.874	.830
Camrose	.926	.941	.955	.925	.951	.966	.803	.902	.896	.955	1.01	1.01
Crow's Nest Pass	.595	.604	.616	.607	.620	.624	.580	.580	.588	.590	.620	.590
Edmonton	.952	.990	1.02	.982	.984	.983	.890	.930	1.03	1.01	1.03	1.04
Lethbridge	.840	.943	.904	.848	.866	.791	.724	.800	.860	.850	.873	.800
Medicine Hat	.761	.796	.750	.781	.760	.760	.750	.742	.747	.763	.765	.752
Ponoka	.905	.899	.943	.965	.953	.891	.853	.874	.918	.954	1.01	1.01
Red Deer	1.12	1.16	1.16	1.24	1.19	.922	.959	.941	.940	.968	1.01	1.01

TABLE 2
CONSUMPTION OF FLUID MILK MONTHLY, 1951—IN QUARTS

Area	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	1,304,600	1,237,739	1,374,274	1,355,606	1,408,194	1,329,604	1,342,506	1,305,950	1,317,725	1,317,725	1,346,053	1,378,880
Camrose	50,105	36,973	52,209	49,126	51,965	50,574	45,168	47,455	47,009	50,771	51,728	53,264
Crow's Nest Pass	75,372	69,616	77,725	74,882	78,407	74,131	72,723	74,089	72,617	76,243	74,322	75,180
Edmonton	1,697,606	1,599,499	1,806,887	1,698,018	1,764,228	1,688,429	1,581,869	1,626,429	1,643,174	1,781,351	1,764,663	1,788,448
Lethbridge	220,543	209,018	234,441	213,095	223,884	221,080	210,225	217,889	220,545	223,233	224,396	231,961
Medicine Hat	130,636	123,036	132,641	131,186	132,841	127,441	131,609	218,982	124,696	131,146	125,140	127,693
Ponoka	23,431	21,847	25,073	24,166	25,863	23,844	22,623	22,822	23,162	24,550	24,559	24,101
Red Deer	70,940	65,499	73,799	71,169	75,461	73,821	78,792	76,541	75,810	81,220	80,786	81,000

TABLE 3
CONSUMPTION OF FLUID CREAM MONTHLY, 1951—IN QUARTS

Area	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	120,778	112,710	123,308	119,975	121,422	121,480	124,693	119,581	118,841	135,300	123,710	128,296
Camrose	1,715	1,526	1,713	1,586	1,658	1,754	1,164	1,864	1,638	1,905	1,986	2,043
Crow's Nest Pass	302	227	346	249	307	546	372	225	233	180	283	300
Edmonton	144,805	133,171	155,037	141,621	144,260	141,511	138,170	148,823	160,442	154,437	153,249	155,723
Lethbridge	18,465	18,542	20,532	18,814	19,882	20,921	18,602	20,091	20,617	21,687	20,969	21,090
Medicine Hat	7,642	7,202	6,321	6,909	6,690	6,706	6,635	6,908	7,012	7,614	7,932	8,034
Ponoka	1,273	1,138	1,357	1,416	1,314	1,139	1,234	1,301	1,327	1,464	1,550	1,711
Red Deer	2,582	2,505	2,537	3,282	2,701	2,880	2,978	3,016	2,707	2,826	3,016	3,183

TABLE 4
CONSUMPTION OF CHOCOLATE DAIRY DRINK MONTHLY, 1951—IN QUARTS

Area	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	25,657	28,545	35,170	36,640	45,597	46,480	57,296	53,934	52,831	40,984	38,793	39,569
Camrose	..	..	..	..	..	2,343	1,197	896	..	..	..	..
Crow's Nest Pass	..	..	..	..	..	100,730	106,739	108,764	88,600	89,787	80,334	75,918
Edmonton	62,000	63,551	73,445	76,765	90,785	9,122	11,677	10,004	7,148	6,096	6,415	6,526
Lethbridge	4,136	10,231	4,607	6,314	9,359	6,392	8,332	8,035	6,806	6,609	6,065	6,323
Medicine Hat	4,590	4,325	5,801	5,446	6,448	..	..	..	..	..	..	..
Ponoka	..	..	..	..	..	..	..	..	..	..	..	..
Red Deer	738	730	1,029	1,805	2,439	2,745	3,282	3,189	3,085	2,766	2,633	2,421

TABLE 5
CONSUMPTION OF BUTTERMILK MONTHLY, 1951—IN QUARTS

Area	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	13,063	13,770	15,382	17,708	20,839	19,784	22,006	19,660	15,495	15,634	15,453	15,377
Camrose	..	..	..	..	..	377	152	226	208	..	..	..
Crow's Nest Pass	..	..	..	..	..	31,691	31,477	29,966	21,897	19,790	17,860	17,982
Edmonton	16,982	19,641	21,732	23,812	29,544	3,105	3,884	3,982	3,344	2,329	2,118	2,038
Lethbridge	1,287	1,396	1,772	2,238	3,168	3,183	3,884	3,982	3,344	2,329	2,118	2,038
Medicine Hat	535	566	572	791	1,168	1,090	1,370	1,075	692	721	656	561
Ponoka	..	..	..	..	..	..	..	..	..	..	..	..
Red Deer	466	566	663	793	825	820	1,163	937	873	653	668	768

TABLE 6
FLUID MILK CONSUMPTION, 1947 TO 1951—IN QUARTS

Area	1947	1948	1949	1950	1951
Calgary	14,437,081	13,910,727	14,602,149	15,372,709	16,018,856
Camrose	No Record	498,817	547,698	565,449	586,347
Crow's Nest Pass	No Record	741,929	729,359	813,662	895,307
Edmonton	17,575,803	17,287,723	18,740,153	19,589,606	20,440,719
Lethbridge	2,422,713	2,357,966	2,444,563	2,555,025	2,650,310
Medicine Hat	1,776,904	1,771,824	1,568,148	1,550,809	1,547,050
Ponoka	No Record	248,739	257,290	266,587	286,041
Red Deer	761,967	772,833	820,462	839,336	904,838
TOTALS	36,974,468	37,590,558	39,709,822	41,553,183	43,329,468

TABLE 7
FLUID CREAM CONSUMPTION, 1947-1951—IN QUARTS

Area	1947	1948	1949	1950	1951
Calgary	1,600,813	1,417,539	1,380,214	1,432,364	1,470,094
Camrose	No Record	20,433	22,929	20,509	20,552
Crow's Nest Pass	No Record	1,573	2,616	4,529	3,570
Edmonton	1,710,999	1,537,893	1,640,743	1,696,727	1,771,249
Lethbridge	208,730	191,806	207,576	228,306	240,212
Medicine Hat	96,437	95,788	92,358	90,634	85,605
Ponoka	No Record	13,555	15,214	15,161	16,324
Red Deer	No Record	37,719	30,866	31,208	34,213
TOTALS in Quarts	3,617,015	3,316,306	3,392,516	3,519,438	3,641,819
TOTALS in B. F. Equiva- lbs.	1,401,535	995,161	1,028,445	1,077,533	1,133,662

TABLE 8
FLUID MILK PURCHASES BY DISTRIBUTING PLANTS, 1947-1951—IN POUNDS

Area	1947	1948	1949	1950	1951
Calgary	47,943,162	44,746,741	48,277,972	50,296,562	51,916,291
Camrose	No Record	1,326,321	1,555,293	1,742,920	1,548,501
Crow's Nest Pass	No Record	1,393,870	1,166,023	1,386,516	1,344,199
Edmonton	51,191,446	52,369,056	54,684,765	58,260,599	61,682,711
Lethbridge	7,016,653	6,624,628	6,739,570	7,077,846	7,373,642
Medicine Hat	4,626,413	4,593,004	4,760,167	4,674,066	5,015,290
Ponoka	No Record	699,388	790,910	870,160	902,509
Red Deer	4,061,350	3,195,454	3,333,969	3,373,296	3,453,816
TOTALS (lbs.)	114,839,024	114,948,462	121,299,669	127,681,965	133,236,959

TABLE 9
SUMMARY OF MILK AND CREAM PRODUCERS AND DISTRIBUTORS OPERATING
ON DECEMBER 31st, 1951, UNDER BOARD OF PUBLIC UTILITY
COMMISSIONERS LICENSE

Area	Milk		Cream		Total	
	Producers	Distribu- tors	Producers	Distribu- tors	Producers	Distribu- tors
Bowden	1	1			1	1
Calgary	246	5	27	1	273	6
Camrose	8	2			8	2
Crow's Nest Pass	11	1			11	1
Edmonton	385	4	17		402	4
Lethbridge	35	2			35	2
Medicine Hat	37	3			37	3
Ponoka	4	1	1		5	1
Red Deer	14	2	8		22	2
TOTALS	741	21	53	1	794	22

TABLE 10
MILK AND CREAM PRICES AS EFFECTIVE DECEMBER 31st, 1951

Area	MILK			CREAM			MILK PRODUCTS		
	To Pro- per 100 lbs. 3.5% B.F.	To Con- sumers Per Qt. c.	10% Sub- standard Per Pint c.	18% Table Per Pint c.	32-34% Whipping Per Half-Pint c.	Chocolate Milk Per Qt. c.	Buttermilk Per Qt. c.		
Bowden	\$ 4.08	17			25	22	20		
Calgary	4.84	21	23		30	22	17		
Canrose	4.43	18	21	36	28	20			
Crow's Nest Pass	5.45	23	23			24			
Edmonton	4.84	20	23	38	29	21	19		
Lethbridge	4.84	21	23		30	22	20		
Medicine Hat	4.84	21	23		30	22	20		
Ponoka	4.43	18		36	28	20	17		
Red Deer	4.95	20	23	40	30	22	20		

TABLE 11
COMPARISON OF PURCHASE AND RE-SALE PRICES OF MILK AND MILK
PRODUCTS AS EFFECTIVE DECEMBER 31st, 1951

Province	City	PURCHASE PRICE			RETAIL SALE PRICE			
		Per 100 lbs. Basis 3.5% B.F. \$	Milk per Qt. c.	Cream Sub- Standard per Pt. c.	Whipping 32-34% per Half-Pint c.	Buttermilk per Qt. c.	Chocolate Dairy Drink per Qt. c.	
British Columbia	Vancouver	5.03	22	25	36	19	24	
Alberta	Edmonton	4.84	20	23	29	19	21	
Saskatchewan	Regina	4.75	20	22	31	19	21	
Manitoba	Winnipeg	4.35	20					

Report of the Poultry Branch

F. J. HIGGINSON, Acting Poultry Commissioner

Inspectors: E. R. Nicholls, Calgary; J. Raffa, Red Deer; A. O. Mickelson,
Wetaskiwin; E. E. Kitchen, Edmonton

W. E. Hughes, Manager, Provincial Poultry Plant

GENERAL REVIEW

For Alberta poultry producers the 1951 season was indeed very favorable. The continuance of the support price program by the Federal government had a stabilizing effect on the industry. From the first of the year egg prices increased steadily until they reached a higher level than had been experienced for a number of years, maintaining that high level for thirteen weeks. The average price received by the producer for Grade A was 49.4c per dozen, and for Grade B 38.9c per dozen, with the average price for all grades for the entire year at 43c per dozen. Due to the high price of red meats poultry meat was also in demand at good prices. The feed situation is somewhat changed from last year. It appears that large supplies of low grade grain are now available for feeding purposes and the poultry industry presents a possible outlet through which this grain can be marketed at profit and at the same time lower poultry production costs.

EGG AND CHICK PRODUCTION

Egg production shows a slight decrease from last year but the quality continues very high, 78.6% grading Grade A, 17.1% grading Grade B, and 4.3% grading Grade C. This increase in the quality of eggs produced is very gratifying and is no doubt due to efficient feeding and management practices which are being followed at the present time.

Chick production was the highest on record for this province with a total of 7,685,478 chicks hatched in Alberta and 839,026 imported, making a total of 8,524,504 chicks for the year. This does not necessarily mean that a greater number of pullets will be available for the laying pens as, fortunately, a large percent of the later hatched chicks went into the meat production channels, principally the broiler trade, which at the present time is being very extensively developed by several of the large wholesale firms. Small broiler plants with a weekly output of from 500 to 1,000 birds are being established in many parts of the province to meet the consumer demand for this product. This market is also creating a heavy demand for cockerel chicks and a continuity of supply for the entire year. Local hatcheries are making every effort to meet this demand, which in turn is proving very beneficial to the hatching egg producer. The production of capons is steadily increasing. The volume offered is still insufficient for the wholesalers to pay the premium which is necessary to encourage the production of this high quality poultry meat.

LIVE AND DRESSED POULTRY

The situation in regard to live and dressed poultry is again different than last year. Reports indicate over fourteen million pounds more poultry in storage than at this time last year, with imports amounting to 79,000 pounds. In Alberta there were 2,733,000 pounds of dressed poultry in storage at the end of 1951 compared with 1,736,000 pounds last year.

TURKEYS

Turkey production was slightly lower this season with a decrease of 2.3% over 1950 and in order to meet the heavy demand it was necessary to import large numbers of turkey eggs and poults. Well over 40% of Alberta's turkey requirements were imported last season, the largest number being from the U.S.A. This is a situation which should not exist in this province and every effort is being made to correct it. Here there is the market, the climate and the feed, an ideal combination for the production of turkeys and turkey hatching eggs. At Thanksgiving time the market started out quite strong and continued steady right through to Christmas with a slight premium being paid for birds in the desirable weight range. With keen competition among buyers for the product the prices obtained were in the most part satisfactory and left a fair margin of profit for the producer, although the price differential on all birds over eighteen pounds is very difficult to understand and is most discouraging to turkey producers as in practically all seasons of the year, excepting Christmas, the heavy turkey is the premium turkey, and with over 90% of Alberta turkeys being of the Broad Breasted Bronze variety breeders are penalized from the start. As is always the case following a high commercial market the previous season, the demand for poults for this year is very heavy, in fact the heaviest on record for a long time. Some hatcheries report being booked up for the entire season and many have to refuse orders as they cannot be assured of an available supply of turkey hatching eggs, a situation which will again necessitate the importation of large numbers of poults to meet the demand and which could result in incubator capacity idle within this province. However, the establishment of specialized turkey breeding farms is increasing, particularly in the northern part of the province. Good buildings are being erected, efficient feeding and management practices followed, and it is hoped that this expansion in good turkey breeding will in time take care of all Alberta's requirements for turkey hatching eggs.

TURKEY BANDING AND APPROVAL POLICY

The turkey banding and approval policy continues the same as in the past year with only one grade of bird being banded, Grade A. In making the selection emphasis is placed on market type and present day requirements. In nearly all flocks there are a few outstanding specimens. These birds are marked with a plain green band in addition to the approval band for special identification purposes. Last season 12,308 breeding birds were banded. Final figures are not complete for this season but a substantial increase is expected.

POULTRY APPROVAL AND BANDING POLICY

Hatcherymen in Alberta are continuing to increase their egg setting capacity, resulting in an increased demand for hatching eggs. In an effort to supply this demand everything possible is being done to promote more approved flocks. Last season showed an increase of 94 flocks and when final figures are compiled for the 1951-52 season a further increase is anticipated. This season, in co-operation with one of the large Alberta hatcheries, the controlled poultry breeding program is being instituted. Arrangements have already been made to supply the key flock owners under this program with pedigree pullets and cockerels of one strain of S. C. White Leghorns necessary to promote this program. Since that time requests have been received from other hatcheries who wish to be included in this program. These requests have of necessity been deferred as the supply of pedigree birds is very limited and it will be another season before this program can be extended. In this respect, in an effort to provide the birds necessary for foundation stock, and in co-operation with the Federal poultry officials, an R.O.P. group entry unit was recently established in an effort to provide key flock owners with their requirements in New Hampshires. This program, when in operation, will assure the chick buyer of quality chicks, more value for the money, and will assure the hatcheryman of a steady supply of eggs.

PROVINCIAL POULTRY PLANT

This year the basement in the office building at the Provincial Poultry Plant was completely remodelled and a new Bundy incubator of 12,000 setting and 4,000 hatching capacity, and two Jamesway brooders, were purchased. The brooding room, egg room and wash room were all changed to conform with Federal hatchery regulations. A fire alarm system was set up and gas was installed in all the buildings. The entire hatchery unit is now complete and installed in the basement. The stock included S.C. White Leghorns, New Hampshires, and Bronze turkeys. Last season in order to introduce some new blood into the S.C. White Leghorn flock one cockerel was purchased from an outstanding Leghorn breeder in Saskatchewan. This bird was mated to fifteen certified hens. The female progeny from this mating were carefully trapped and recorded as to their performance. The results were very disappointing. The birds were small, the mortality high, and egg production below the average. As this experiment proved that these two particular strains of Leghorns did not nick the entire pen was discarded.

By persistent culling and careful selection the flock at the Provincial Poultry Plant is practically free of and resistant to Leukosis. At the present time this flock consists of 1,677 birds, 875 S.C. White Leghorns and 802 New Hampshires.

BRONZE TURKEYS

The turkey program is on a very small scale as facilities to extend this work are not available. In accordance with the popular demand and market requirements the original program for turkey selection is being continued in an effort to produce a medium size bird with hens weighing up to 16 pounds and toms from 22 to 25

pounds. Considering the small flock there is from which to make the selection good progress is being made. After several experiments pertaining to the rearing of poults the system that has been found the most satisfactory and the one that we have used for the past two years, are continuing to use, is to floor brood the poults for about eight weeks using a good poult starter for feed. For a further four weeks the birds are provided with slatted verandahs, at the same time a gradual change is made in the feeding program until they are on a good growing mash. This also gives them time to harden off and become accustomed to outside temperatures and feed changes, after which they are put on a good alfalfa range and fed growing mash and grain until maturity. Verandah rearing for the entire period has some advantages. There are no losses from predatory animals, complete disease control is obtained, a very limited space is all that is necessary, but production costs are increased. Last spring 100 turkey eggs were shipped to the University at Reading, England. Poults from these eggs were to form the nucleus of a breeding flock at that institution. Reports to date indicate the hatchability was good, poults hatched very strong, and were of excellent quality. Again due to the necessity of having to guard against the possibility of disease being brought to the Provincial Poultry Plant visitors were not allowed to visit the farm this season as has always been the custom in the past. However, it is hoped that for the coming season it may be possible to extend to all interested a very hearty welcome to visit the Provincial Poultry Plant.

JUNIOR CLUBS

In co-operation with three District Agriculturists, Mr. E. H. Buckingham, Vermilion, Mr. F. Magera, Willingdon; and Mr. W. Proctor, Wetaskiwin, five junior clubs were organized and assistance was given in their supervision. Three of these clubs were turkey clubs and two capon clubs. Four achievement days were held, all of which were very well attended and supported. Parents are showing a great interest in this particular phase of junior work and it is hoped that quite a number of poultry clubs will be formed this coming season. For the first time Alberta was able to send a junior poultry judging team to the Royal Winter Fair at Toronto to compete in the Dominion poultry judging competition. Considering this was the first time for an effort of this kind these boys made a very good showing, placing sixth, with one member of the team scoring high points for the judging of Barred Rock pullets, 98 out of a possible 100. We again hope to be able to send a team to Toronto this season.

ROYAL WINTER FAIR

The Alberta poultry exhibit at the Royal Winter Fair this year was confined mainly to dressed birds as it was deemed advisable not to assemble live birds due to the disease hazard. However, two poultry exhibitors decided to send their live birds direct and these exhibits made an excellent showing as follows:

Mr. Gilbert Young, DeWinton—R.C. White Leghorns—1st and 4th hen, 3rd cockerel, and 1st young trio.

Mr. R. Adams, Edmonton—Rhode Island Reds—1st, 2nd, and 3rd hen, and 1st pullet.

STAFF ACTIVITIES

During the fall and winter months the supervision of the Provincial flock approval program, under which some 300,000 head of poultry, and approximately 15,000 turkeys, are approved and blood tested, demands most of the time of the members of the permanent poultry staff. In addition, eighteen to twenty men are employed on a temporary basis for this work. Further, there are culling and caponizing demonstrations, meetings, and short courses, etc., many of which are sponsored by the F.U.A., Women's Institutes, Ladies Aids, etc. During the past season five junior poultry clubs were organized in the province and the members of the staff assisted the District Agriculturists with this work and also in coaching the poultry judging team which represented Alberta at the Royal Winter Fair.

TOTAL NUMBER OF WHOLESALE POULTRY PREMISES OPERATING
IN ALBERTA

Year	Fully Registered	Tentative Registration	Total Operating
1944			160
1945			188
1946	177	12	189
1947	168	17	185
1948	167	3	170
1949	163	3	166
1950	167		167
1951	165		165

PROVINCIAL POULTRY PLANT R.O.P. 1950-51 ENTRY

	S.C. White Leghorns	New Hampshires (1st Year)
Birds Entered	496	154
Birds Certified	311—62.7%	62—40.2%
Average Production*	175 eggs	168 eggs
Average Egg Weight	26.8 cunces	25.6 ounces
Average Body Weight	4.6 pounds	5.7 pounds
Dead and Culled	17%	7%

Progeny Test:

Males Passed 3 out of 7

Females Passed 26 out of 33

*Trapping period was 305 days.

(S.C. White Leghorn entry includes experimental cross of new blood which, as previously stated, have all been discarded.)

SUMMARIZATION OF HATCHING AND SALES OF STOCK

	S.C. White Leghorns	New Hampshires
Hatched:		
R.O.P. Pedigree Chicks	6485	3201
Custom Hatched—4,586		
Sold:		
R.O.P. Cockerel Chicks	1355	435
Pullet Chicks	562	501
Total	1917	936
 Mature Males	285	218
Mature Females	1350	585
Total	1635	803
Hatching eggs—49,500		

DEPARTMENT OF AGRICULTURE

TABLE I.

Year	Method of Testing	No. of Flocks	No. of Birds	% Reaction
1930-31	Tube Agglutination	148	18,608	20.2
1931-32	"	232	31,177	12.9
1932-33	"	188	26,381	8.6
1933-34	"	205	33,295	7.3
1934-35	"	645	104,858	11.2
1935-36	"	615	94,536	5.5
1936-37	"	815	136,228	5.5
1937-38	"	677	108,908	4.8
1938-39	"	534	92,355	4.51
1939-40	Whole Blood	437	80,927	5.1
1940-41	"	412	91,868	2.6
1941-42	"	510	120,198	2.12
1942-43	"	460	120,841	0.36
1943-44	"	664	165,903	0.716
1944-45	"	694	198,877	0.736
1945-46	"	632	186,992	0.798
1946-47	"	792	248,666	0.526
1947-48	"	862	276,716	0.645
1948-49	"	708	231,255	0.645
1949-50	"	826	255,561	.193
1950-51	"	930	291,660	.189

NOTE: The above reaction is on the first test. Some provinces show a lower reaction, but these are on the final tests where over 2% reaction required a second and sometimes third and fourth retests.

DEVELOPMENT OF HATCHERIES AND CHICK SALES SINCE 1936

Year	Egg Setting Capacity	% of 1936	Chicks Hatched	% of 1936
1936	924,300		1,028,881	
1937	1,036,526	112.1	1,068,056	103.8
1938	1,033,906	111.9	1,171,082	113.8
1939	1,052,759	113.9	1,394,194	135.5
1940	1,203,368	130.2	1,538,597	149.7
1941	1,269,117	137.3	1,939,052	188.4
1942	1,407,280	151.2	2,631,468	255.8
1943	1,408,070	152.3	3,607,372	250.6
1944	2,102,434	223.1	5,476,476	532.3
1945	2,208,938	238.9	4,917,366	477.9
1946	2,445,750	264.6	5,711,423	555.1
1947	3,404,773	390.0	7,452,785	724.3
1948	3,638,704	393.7	6,265,620	608.9
1949	3,736,510	404.2	6,595,620	641.0
1950	3,862,436	417.9	5,940,992	577.4
1951	3,601,633	389.5	7,685,478	746.9

PRODUCTION OF CHICKS

	1950	1951
Breeder Hatcheries operating in Alberta	9	8
Commercial Hatcheries operating in Alberta	51	55
	<u>60</u>	<u>63</u>
Total Incubator Capacity of these Hatcheries	3,862,436	3,601,633
Decrease in Incubator Capacity under 1950—6.7%		
Chicks Hatched in Breeder Hatcheries	157,822	61,477
Chicks Hatched in Commercial Hatcheries	5,783,170	7,685,478
	<u>5,940,992</u>	<u>7,685,478</u>

Chicks Increase in Chick Production over 1950—29.3%.

HATCHABILITY

	1950	1951
All Approved Hatcheries (Average)	67.8%	67.8%

CHICKS IMPORTED INTO ALBERTA

From:		
British Columbia	406,044	462,157
Saskatchewan	160,535	181,078
Manitoba	94,162	154,392
Ontario	24,247	41,399
Maritimes	No Record	
	<u>684,988</u>	<u>839,026</u>

Increase in chicks imported into Alberta: 154,038—22.5%.

CHICKS EXPORTED FROM ALBERTA

To:	1950	1951
British Columbia	93,815	110,316
Saskatchewan	54,384	64,102
Manitoba	750	1,365
Yukon Territory		
	<u>149,099</u>	<u>176,133</u>

Increase in Exported Chicks over 1950: 27,034—18.1%.

CHICKS DESTROYED BY APPROVED HATCHERIES IN ALBERTA
DURING 1951 HATCHING SEASON

	1950	1951
Heavy Cockerels	272,753	192,730
Light Cockerels	6,350	6,366
Mixed Chicks	22,765	4,850
Pullets	2,175	1,450
	<u>304,043</u>	<u>205,396</u>

Decrease in Chicks Destroyed: 98,647—32.4%.

ANALYSIS OF CHICK SALES, 1951

Total Production of Chicks in Alberta:		1951
From Alberta Flocks		6,739,069
From Imported Eggs		<u>946,409</u>
		7,685,478
Chicks Imported		<u>839,026</u>
		8,524,504
Less Chicks Exported	176,133	
Chicks Destroyed	<u>205,396</u>	
		381,529
Chicks Remaining in Province		<u>8,142,975</u>

Report of Agricultural Extension Service

F. H. NEWCOMBE, Director

S. S. Graham, Supervisor of District Agriculturists
 Mrs. V. G. Macdonald, Supervisor, Women's Extension
 Miss B. J. Lewis, Extension Nutritionist
 Miss C. Judson, Extension Home Designer
 C. A. Cheshire, Extension Engineer
 E. B. Swindlehurst, Extension Editor
 R. E. English, Statistician
 T. Kilduff, Research Extension Officer

GENERAL

A difficult year for extension activities has now closed. The weather interfered with many events such as fairs, field days, demonstrations, etc. The condition of the roads also made travelling difficult for members of the staff.

No changes in staff have occurred during the year with the exception of District Agriculturists and Home Economists, and these will be reported elsewhere.

AGRICULTURAL SOCIETIES

The general level of prosperity would appear to be reflected to some extent in the increasing interest in the activities of Societies. New Societies were organized as indicated hereunder:

Barrhead, Grand Centre, Grande Prairie, High Prairie.

As at the close of the year there is some evidence that additional points will organize during 1952. The total number of Societies at this date is 41.

During 1951 Agricultural Fairs were conducted by Agricultural Societies and Exhibition Associations as indicated hereunder:

Class "A" Fairs—Calgary, Edmonton.

Class "B" Fairs—Camrose, Lethbridge, Lloydminster, Red Deer, Vegreville, Vermilion.

Class "C" Fairs—Benalto, Donnelly-Falher-Girouxville, Goose Creek, Lamont, Lousana, Medicine Hat, Olds, Priddis-Millarville, St. Paul, Westlock, Wetaskiwin, Wildwood, Willingdon.

In addition, new Fairs were conducted by the following Societies: Athabasca, Battle River, Cardston, Grand Centre, Grande Prairie.

The following statistics may give some measure of the increasing interest in, and the amount paid out in prizes, at Fairs:

	1946	1950
Total number of Exhibits:		
Livestock	3,698	4,648
Other	6,984	12,175
Total	10,682	16,823
Total Amount of Prizes:		
Livestock	\$12,617.30	\$23,654.80
Other	3,817.42	9,124.50
Total	\$16,434.72	\$31,779.30

Other activities of Agricultural Societies supported by Departmental grants were held as indicated below:

Tillage Competitions	10
Livestock Sales	2
Junior Club Display Competitions	1
Seed Fairs	3
Horticultural Shows	2

During 1951 the following Societies were disorganized by Ministerial Order: Acme, Airdrie, Carbon, Castor, DeBolt, Daysland, Flaxland, Gopher Head, Hardisty, Legal-Diligence, Loverna (Big Bend), Rexboro-Fallis, Rumsey, Stanmore, Strathmore, Suffield, Swalwell, Wabamun, Deep Creek, Grassy Lake, Oyen and Fort Vermilion. Mr. P. W. Johnson, formerly Secretary to the Department, acted as Liquidator. All of these were Societies which had been inactive for many years.

FARM LABOUR

The continued drift of workers into industry creates an increasingly difficult situation in providing labour for farms. It is debatable whether or not farmers can hope to compete with industry in the matter of housing accommodation, social life, wages, unemployment insurance, and workmen's compensation benefits.

Ontario Farm Workers

The growing season opened much later than usual and as a result the response to the demand from Ontario for haying and harvest labour was poor and only 187 men were sent forward.

Prairie Farm Workers

The heavy crop of 1951 provided an outlet for more than the number of harvest workers available. The harvest season was, however, very unsuitable and the financial result was unsatisfactory to the workers that came from the east. A total of 936 were brought to the province this year, which is about 26% greater than in 1950. Harvest wages reached an all-time high beginning at about \$7.50 per day and proceeding upward to as high as \$1.00 per hour for threshing.

Alberta Harvesters

This refers to the placement of Alberta workers in harvest fields. The total of 2,141 does not include movements of urban residents organized in some parts of the province in which business were closed or staffs reduced to assist in harvest work.

Service Personnel

As nearly as can be estimated, about 650 Service personnel proceeded to the harvest fields to assist with this work. The weather militated greatly against the success of this as of other organized movements for harvest.

Beet Workers

A normal demand from beet growers for about 1,000 new workers was satisfied to the extent of 744. In addition to these, an appreciable number not known here were brought in by the Department of Citizenship and Immigration.

General Farm Workers (D.P.)

The number as well as the suitability of these workers has continued its downward trend and only 76 are shown as having been brought in during the year.

Church Sponsored

These numbers have been sustained reasonably well and according to our records 145 were brought in under these auspices.

Immigrants

These persons are not brought to the province by this Government but since they do constitute a contribution to the farm labour force they are reported upon here as a matter of record. Information indicates that about 700 of these came to Alberta during the past year.

General

Relationships between the Federal Department of Labour and Provincial representatives continue to be cordial. The Federal-Provincial Farm Labour Committee has continued its work throughout the year and three meetings were held. It is believed that the Committee performs a useful service in co-ordinating the efforts of the Federal and Provincial Departments.

The conviction grows that a permanent solution to the problem of a satisfactory farm labour supply must of necessity coincide with some changes in the general farm program. For example, the introduction of a more diversified type of agriculture would provide more year round employment with greater assurance that men would be available for the lesser employment peaks which would follow the adoption of such a program.

The short statistical review which follows reflects the activities during this year.

1. GENERAL FARM LABOUR:	1951
(a) Requirements	1,172
(b) Placements	847
2. SEASONAL MOVEMENTS:	
(a) Ontario Farm Workers	187
(b) Prairie Farm Workers	936
(c) Alberta Harvesters	2,450
(d) Service Personnel on Harvest Leave	650
3. DISPLACED PERSONS:	
(a) Beet Workers	744
(b) General Farm Workers	76
(c) Church Sponsored:	
Canadian Lutheran World Relief	
Single Males	16
Domestics	7
Farm Families	15
Mennonite Farm Labour Movement:	—
Single Males	4
Domestics	2
Farm Families	10
	55
4. IMMIGRATION:	
(a) Dutch Settlers	699
TOTAL	7,737
5. INVESTIGATIONS AND REPLACEMENTS (Provincial Field Staff):	
(a) Displaced Persons	85
(b) General Labour, Dutch, etc.	669

MASTER FARM FAMILY PROGRAM

This program has now completed its third year of operation; the number of nominees was somewhat less than in 1950 with a

total of 32. The score card was again changed slightly with some re-arrangement of emphasis on the various points. Officers of this Department again were assisted by farmers and farm women.

Master Farm Families named for 1951 were as follows:

John G. Porozni Family, Willingdon, Alberta
J. W. Hosford Family, South Edmonton, Alberta
Floyd Gilkyson Family, La Glace, Alberta
Victor Watson Family, Airdrie, Alberta.

PRAIRIE RURAL HOUSING COMMITTEE

It was anticipated that the activities of this Committee would be concluded this year. Owing to the shortage of paper and other unforeseen delays it was not possible to issue the final reports of the research done by the Committee. It is now believed that the following projects will be reported upon and the booklets issued early in 1952: Houses for Cold Weather, Costs in House Construction, Farm House Designs, Farm House Remodelling, Farm Kitchens and Utiliti Rooms.

EDITORIAL AND RADIO

Press items, leaflets, bulletins and circulars on a wide variety of agricultural and homemaking topics serve as seasonable reminders, offer information on up-to-date practices, and provide a channel through which department specialists record and pass on information of value to the farm reader. The aim of the editorial service is to make other extension procedures more effective.

"Farm Notes," a weekly service to the press, contains short items of general interest on agricultural and home economics subjects. These items appear widely in a variety of publications, and requests for copies are received from instructors, business concerns, agricultural workers and others not directly connected with the press. During 1951, 270 items were prepared and distributed through this medium.

The demand continues for printed material in the form of bulletins, circulars and mimeographs. This type of extension release serves to supplement information received from radio, press, agricultural meetings and other sources. More than 200,000 of these publications were distributed in 1951.

Agricultural publications printed or reprinted in 1951 dealt with a variety of topics including field crop varieties, fertilizers, soil protection, control of field weeds and weeds poisonous to live stock, live stock diseases, coyote control, poultry, silage, grain storage, and grain drying.

Radio contact with rural listeners was maintained throughout the year with the program "Alberta Farm and Home Forum," broadcast three times weekly from the Alberta Government station CKUA. Sponsored by the Faculty of Agriculture, University of Alberta and the Alberta Department of Agriculture, short talks on farm or home management were given every Monday, Wednesday and Friday by members of the Department and University staffs. One hundred and fifty-five of these talks were heard during the year, to eighty-four of which the Alberta Department of Agriculture contributed. Farm and home notes were prepared and presented at the conclusion of each broadcast.

RESEARCH EXTENSION OFFICER

During 1951 seventeen articles were written for press release and staff information. All articles given press release, and three others of local interest only, were radiocast.

Sixty-six letters of inquiry on agricultural matters were answered. Thirty-nine of these were from farmers or householders, twenty-six were from nine District Agriculturists' offices and one from headquarters.

Meetings attended totalled thirty-six. At four of the eight Short Courses both ladies' and men's sections were addressed. An active part was taken in seven Field Days held on Dominion Experimental Substations and in four Junior Club events. In all, thirteen separate talks were prepared for an over-all adult audience of 1,775. Juniors addressed, individual and group tours of the Science Service Laboratories, and office interviews account for further contacts totalling 250.

The most cordial co-operation continues with Dr. W. C. Broadfoot, Mr. A. E. Palmer, and their respective staffs. It is a pleasure to report, also, that a committee has just been set up to advise regarding release of information.

AGRICULTURAL ENGINEERING

Tillage Machinery

The largest single endeavor was the series of tillage machinery events comprising 81 demonstrations, competitions and field days. Due to unfavorable weather 12 were cancelled. Tillage machinery demonstrations, first introduced in 1950, were most popular, with a total of 35 and an average attendance of 98. The remaining 34 events were evenly divided between tillage machinery competitions and tillage machinery field days. The average attendance at competitions, excluding the two held in the Edmonton district, was 224, while at the Edmonton District elimination match and the Provincial Championship plowing and tilling match the attendances were 3,000 and 3,500 respectively. Tillage machinery field days drew an average crowd of 34.

Haying Machinery

Three haying field days were planned, but two had to be cancelled and the third restricted because of rainy weather.

Meetings and Short Courses

Addresses covering most phases of Agricultural Engineering were given at 39 meetings and short courses. Attendance exceeded 3,000. Assistance was given at three young people's schools or camps. Radio work included ten contributions to Farm and Home Forum and five interviews recorded at CBX, Edmonton. Nineteen items on Agricultural Engineering topics were used in Farm Notes.

Sixty-eight farm visits were made to advise on some engineering aspect of farm or farmstead planning, while additional farm visits were made to gather information on farm buildings, pit silos, straw cutters, new machinery developments and soil conservation practices. Survey work was carried out at seven locations, six of these pertaining to some phase of water or soil conservation.

Correspondence during 1951 increased over previous years and included 550 individual replies to requests for information, in addition to those where pamphlets and mimeographed circulars were sufficient. Of the inquiries received, approximately 20% were for information on field machinery, .18% on buildings, 14% on water and sewage, and the remainder covered all other aspects of agricultural engineering.

In collaboration with Mr. Dixon of the Dairy Branch, and Mr. MacHardy of the Agricultural Engineering Department at the University, work was completed on material for a bulletin, "Dairy Barns in Alberta." This is now being prepared for publication. A similar project dealing with swine housing has been commenced and much of the basic work completed.

During the year pamphlets or leaflets were prepared dealing with Barn Ventilation, Haying Costs, and Emergency Grain Storage. In collaboration with Mr. Birdsall of the Field Crops Branch and Mr. Dixon of the Dairy Branch a pamphlet, "Silage in Alberta," was prepared. A bulletin, "Electricity on the Farm," was prepared by Mr. S. C. Acheson and will be published shortly.

Some investigational work on grain dryers was commenced in October and is still continuing. After preliminary work with the test unit a leaflet on this particular method of grain drying was issued, and the initial run of 1,200 copies has been exhausted. A more detailed pamphlet is in the process of preparation. The demand comes from all prairie provinces.

An investigation dealing with loose housing barn management was commenced in October, 1951. A study is being made of barn temperatures and their relation to sanitation and herd health. Results have not yet been compiled.

Requests have been received for assistance in various projects such as Rural Electrification schools, irrigation planning services, Tractor or Machinery clubs for young people, survey of farms for contour operations, etc.

STATISTICS

General

The services provided through the Statistics Division were further developed during the year. The Agriculture Division of the Dominion Bureau of Statistics were assisted in connection with the semi-annual-June and December-crop and live stock surveys. The Provincial figures on crop acreages and live stock numbers are made available to the public by the Dominion Bureau; this Division prepares Alberta farm statistics, in a form suitable for the purposes of farm and business organizations or individuals requiring more detailed information.

Crop reports based on information received through the co-operation of 284 crop correspondents and the use of the mailed questionnaire, were issued at about two-week intervals during the growing season. In 1951 ten crop reports, and a final "Autumn Survey," were prepared. Also, thirteen synopsis of crop conditions in Alberta were forwarded by wire to Ottawa for use in Dominion Bureau of Statistics telegraphic crop reports.

All officers and field staff of this Department receive copies of statistical statements prepared for distribution. In addition, lists of persons requesting statistics as released are maintained.

The types of statistics requested and the numbers on mailing lists in 1951 include the following: General statistics, 100; live stock statistics, 24; field crops statistics, 26; crop reports, 800; autumn survey, 800.

Attention was given to 71 written requests received from the public for statistical data; and a number of special statements were prepared on request of Departmental administrative officers.

Harvest Operations

A survey conducted at December 31, by the Agriculture Division of the Dominion Bureau of Statistics shows that the completion of harvesting with respect to grains was as follows:

	Seeded Acres '000 ac.	Area not Harvested per cent	Acreage '000 ac.	Production '000 bu.	Amt. not Harvested '000 bu.
Wheat	6,364	37	2,386	140,890	55,846
Oats	2,639	35	920	123,525	42,463
Barley	3,011	28	843	104,966	28,950
Rye	320	21	67	6,100	281
Flax	109	36	39	1,200	432

Field Crops Production

The yield, production and value of principal field crops for 1951 may be subject to considerable adjustment in the spring. Present estimates are as follows:

	Acres Seeded	Yield per acre bu.	Production bu.	Price per Unit \$	Total Value \$
Wheat	6,364,000	23.6	150,000,000	1.50*	225,000,000
Oats	2,639,000	46.6	123,000,000	0.70*	86,100,000
Barley	3,011,000	34.9	105,000,000	1.12*	117,600,000
Rye	320,000	19.1	6,100,000	1.52	9,272,000
Mixed Grain	59,300	39.0	2,313,000	0.72	1,665,000
Potatoes	24,200	133.0	3,219,000	1.41	4,539,000
Flaxseed	109,000	11.0	1,200,000	4.03	4,836,000
Miscellaneous**					5,455,000
Hay and Clover	704,000	1.60	1,126,000	16.50	18,579,000
Alfalfa	266,000	2.30	612,000	19.75	12,087,000
Grain Hay	960,000	2.00	1,920,000	12.00	23,040,000
Sugar Beets	37,500	9.31	349,200	14.50*	5,063,000
Total	14,494,000				513,236,000

*Prices used by this Division for the purpose of arriving at approximate values for comparison with 1950 figures. To date only partial payments have been received by farmers for these items.

**Includes forage crop seeds, vegetables for processing, dry peas and mustard seed.

Live Stock

The total number of cattle on farms in June 1951 were estimated to be 2.7 percent up from the comparable 1950 figure. The increase was the first registered since 1945 when the cattle population reached an all-time high of 1,860,200 head. Moreover, lighter marketings in 1951 as compared to 1950 would indicate that the policy of adding to breeding stock is continuing.

In the same period, sheep and lamb numbers increased only slightly or 0.5 percent. As in the case of cattle, lighter 1951 sheep marketings would appear to indicate that, while sheep numbers are still low as compared to the 1,023,200 head kept in 1944, a further gain may be registered in 1952.

The large quantities of grain on Alberta farms that is suitable only for feeding, has resulted in increased swine production. The number of pigs in Alberta at June 1, 1951, totalled 1,038,000 or 128 percent above the number for 1950. However, the pig population in 1951 was only 44 percent of the 2,377,700 head recorded in 1943.

The increase in the value of live stock production in 1951 resulted from higher prices and increased inventory values for all classes except sheep.

The number of live stock on farms at June 1 and production for 1951 were as follows:

	Farm Population June 1, 1951	Production 1951 Number	Value	Value 1950
Cattle	1,055,200	339,087	\$88,811,000	\$83,397,000
Calves	427,200	143,811	15,895,000	13,481,000
Sheep and Lambs	416,600	168,744	3,910,000	4,157,000
Swine	1,038,000	1,542,944	78,626,000	54,510,000
Horses	287,200	28,418	934,000	925,000
			<u>\$188,174,000</u>	<u>\$156,470,000</u>

Live Stock Products

The number of cows kept mainly for milking as at June 1, 1951, was 292,400 as compared to 307,800 in 1950. While fluid milk and cream sales increased, the reduction in cow numbers was reflected in deliveries of butterfat and milk to creameries and cheese factories. Higher prices increased the total value of dairy production as compared to the previous year.

The numbers of poultry in Alberta in June 1951, with 1950 figures in brackets were as follows: domestic fowl, 10,328,000 (8,855,000); turkeys, 530,000 (473,000); geese, 78,000 (76,000); and ducks, 50,000 (43,000). The net chick population was up from 6,172,838 in 1950 to 8,142,975 in 1951. For the first nine months of the year, the average number of laying hens was down from estimated 1950 numbers. Beginning in October, however, a greater number of pullets coming into production reversed the situation. In December the estimated numbers of hens over 6 months were 3,256,000 and 3,284,000 for 1950 and 1951 respectively. Higher egg production for 1951 was achieved through greater production per hen while the average price farmers received for eggs was up 38.6 percent from the 1950 price. There was a large increase in the value of poultry meat produced.

Honey and wool production for 1951 showed little change. The latest statistics on fur production, which are for the year ending August 31, 1951, show considerably increased activity in that branch of production.

Detailed statistics of the production and value of live stock products in Alberta for 1951 are as follows:

	Unit	Production	Price Unit	Total Value 1951	Total Value 1950
Dairy Products:					
Butterfat for Creamery Butter	lb.	23,747,000	\$0.636	\$15,108,030	\$13,870,000
Dairy Butter Produced	lb.	6,050,000	0.575	3,479,000	3,599,000
Milk and Fat for Ice Cream	cwt.*	373,680	2.59	967,000	804,000
Milk for Cheese and Concentrating	cwt.	606,170	2.91	1,582,000	1,554,000
Milk and Cream for Fluid Sales	cwt.	3,130,850	3.98	12,613,000	11,030,000
Milk Consumed on Farm	cwt.	1,960,000	2.59	5,076,000	4,191,000
Milk Fed on Farms	cwt.	10,247,210	0.87	8,433,000	7,354,000
Total Dairy Products				<u>\$47,258,000</u>	<u>\$42,402,000</u>
Poultry Products:					
Commercial Eggs	doz.	34,353,000	\$0.4370	\$15,012,000	\$10,666,000
Hatching Eggs	doz.	912,000	0.6217	567,000	364,000
Poultry Meat	lb.	36,304,000	0.3988	14,478,000	9,236,000
Total Poultry Products				<u>\$30,057,000</u>	<u>\$20,266,000</u>
Honey	lb.	4,500,000	\$.12	\$ 569,000	\$ 655,000†
Wool	lb.	1,925,000	.675	1,300,000	1,100,000
Fur Farming** Animals and pelts		139,945		2,826,000	1,970,000
Total Value of Live Stock Products				<u>\$82,010,000</u>	<u>\$66,393,000</u>

*Figures in milk equivalent. †Includes the value of wax.

**Year ending August 31, 1951.

Summary of Agricultural Production

The value of agricultural production in Alberta by classes for the years 1949 to 1951 inclusive were as follows:

	1949	1950	1951
Field Crops	\$288,787,000	\$353,770,000	\$513,236,000
Live Stock	151,096,000	156,470,000	188,174,000
Dairy Products	43,244,000	42,402,000	41,258,000
Poultry Products	23,781,000	20,266,000	30,057,000
Honey and Wax	614,000	655,000	569,000
Wool	509,000	1,100,000	1,300,000
Fur Farming	1,867,000	1,970,000	2,825,000

Farm Income and Operating Expenses

Preliminary estimates show 1951 Alberta farm income and operating expenses to be the highest on record. The following three statements taken from Dominion Bureau of Statistics publications show comparative figures for the years 1949 to 1951 inclusive:

CASH INCOME FROM THE SALE OF FARM PRODUCTS

	1949		1950		1951	
	'000 \$	Total % of	'000 \$	Total % of	'000 \$	Total % of
Field Crops	253,734	55.7	167,486	44.8	243,710	5.14
Live Stock	144,738	31.7	150,389	40.3	163,381	34.4
Dairy Products	28,094	6.2	27,449	7.4	30,450	6.4
Poultry Products	15,865	3.5	13,736	3.7	21,875	4.6
Honey	693	.2	585	.2	545	.1
Wool	504	.1	1,123	.3	1,287	.3
Fur Farming	1,952	.4	1,607	.4	1,974	.4
Miscellaneous	6,873	1.5	5,632	1.5	7,144	1.5
Total Income from Farm Products	452,453		368,007		470,366	
Supplementary Payments	3,360	0.7	5,256	1.4	4,235	.9
TOTAL CASH INCOME	455,813	100.0	373,263	100.0	474,601	100.0

NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS

Item	1949 \$ '000	1950 \$ '000	1951 \$ '000
Cash income from farm products	452,453	368,007	470,366
Income in kind	47,718	45,207	49,837
Value of changes in inventory	—	23,503	114,092
GROSS INCOME	450,374	436,717	634,295
Operating expenses and depreciation	183,409	205,567	227,385
NET INCOME (excluding supplementary payments)	266,965	231,150	406,910
Supplementary payments	3,360	5,256	4,235
NET INCOME	270,325	236,406	411,145

FARM OPERATING EXPENSES AND DEPRECIATION CHARGES

Item	1949 \$ '000	1950 \$ '000	1951 \$ '000
Taxes	14,716	15,525	15,090
Gross rent	22,733	27,392	32,358
Wages paid to labour	24,277	28,203	31,070
Interest on indebtedness	5,944	6,335	6,832
Feed and seed purchased	16,262	17,061	17,548
Tractor expenses	21,794	23,443	24,862
Truck expenses	6,922	9,194	11,464
Automobile expenses for farm business	5,689	7,060	8,169
Engine and combine expenses	2,443	2,785	3,101
Machinery repairs and shop charges	12,805	13,579	15,139
Fertilizer	1,993	2,409	3,271
Fruit and vegetable supplies	2,779	2,859	2,948
Repairs to building	4,038	4,246	4,912
Miscellaneous	10,395	10,848	12,286
TOTALS, Operating expenses	152,790	170,939	189,050
Depreciation, building and machinery	30,619	34,628	38,335
TOTALS, Operating expenses and depreciation	183,409	205,567	227,385

DISTRICT AGRICULTURIST SERVICE

Very few staff changes have taken place in the District Agriculturist Service in 1951. The staff at the end of this year totals 39 District Agriculturists and 3 Assistants. Attractive new outside office signs have been erected.

Offices and Staff

A new office was opened at Myrnam with J. B. Gurba, formerly Assistant District Agriculturist at Vegreville, in charge.

G. Ross, Assistant District Agriculturist at St. Paul, resigned.

More adequate office accommodation has been provided at Falher, Drumheller and Sangudo.

With an ever widening field of extension activities, the demands on the time and office facilities of the Agriculturist are growing steadily greater and it is becoming more necessary to utilize the services and talents of community agricultural leaders. Hence Agriculturists must practice one of the important principles of extension teaching—that is to help the people to help themselves.

Farm Management

The farm planning program is an effort to deal with each farm as a unit, rather than to place emphasis on single phases of the farm program. As evidence of the acceptance of this program, some District Agriculturists have more requests for farm planning services than they can adequately handle. The scope of this work is continuing to broaden with the experience of staff members and acceptance of the program. During this year 56 complete farm plans were drawn up with 654 partial plans designed. Complete cost accounts were set up on 30 farms. One hundred and sixty-seven meetings were arranged at which farm management was the principle topic and the subject was discussed at 403 general agricultural meetings. Farmers numbering 131 were helped with farm management problems through office calls and correspondence.

Soil Conservation

Soil conservation has been discussed at almost every meeting, and probably more effective than talking have been the "demonstrations" showing the damage caused by erosion and the control measures indicated. The latter have included practical information on proper use of implements, proper tillage, the intelligent use of grasses and legumes, and trash covers. In addition, "Save the Soil" campaigns and "Better Farming Competitions" have been aimed primarily at demonstrating soil conservation practices. One hundred and eighty-four "farm demonstrations" dealt with some phase of soil conservation. The demonstrations and results were observed by 3,671 farmers. Entries and membership in the various save the soil and better farming campaigns numbered 624. In addition, 353 soil conservation meetings were held which were attended by 17,682 persons. Through office calls and correspondence, 7,608 farmers were given assistance.

Weed Control

The District Agriculturists working with full time Service Board Supervisors and Boards, deal with weed problems on a year

round basis. These co-operative efforts include seed cleaning plants; clean seed campaigns; seed drill surveys and weed demonstration plots for cultural and chemical control. A total of 42 community seed cleaning plants and 41 farm plants were assisted with organization, planning and construction details. Weed control demonstrations were observed by 3,548 persons. Weed control meetings numbering 190 were held with a recorded attendance of 5,934 people. Through correspondence and office calls another 4,990 farmers were given help or advice.

Crop Improvement

Many practical farm demonstrations have been conducted showing the value and importance of varieties of grain and forage crops. These plots on farms throughout the province serve as farm tests which can be observed by farmers in their own communities and under their own conditions, and also to multiply seeds of desirable varieties for use in the district. Mixed pasture demonstrations have been particularly popular, and in keeping with the increasing interest in the utilization of grasses and legumes to produce milk and meat.

Crop demonstrations laid down numbered 74 in grain and 96 in forage. Seventy-nine field days were organized and these were attended by 8,253 farmers. Under the new policy for reclamation with forage crops, 244 farmers participated. Assistance was given through office calls and correspondence to 7,034 farmers.

Plant Pests and Diseases

Demonstrations regarding control of plant pests and diseases were conducted at 55 points throughout the province. These were observed by 1,592 persons. A total of 364 specimens of plants damaged by insects or disease were forwarded to laboratories where specialists in these fields could make identification. Assistance was given to 3,214 persons through office calls and correspondence with respect to control measures for crop pests and diseases.

Livestock Improvement

The increasing popularity of beef cattle in the farm program has required that District Agriculturists place a degree of emphasis on this which some may consider to be out of balance. The value of other classes of live stock is fully appreciated by them and no opportunity is lost to encourage proper balance in the program.

Emphasis is essentially on the use of quality sires though the improvement in females and the economics of production are not neglected.

Draft horse production continues to decline and only 7 stallions were placed during the year.

LIVESTOCK PLACEMENTS			
Beef Cattle:		Male	Female
Under Policies		309	793
Others		549	793
Swine		355	688
Sheep		127	2,348
SUMMARY OF LIVESTOCK ACTIVITIES			
Demonstrations (livestock)	51		2,735
Livestock meetings	256		11,902
Herds culled or selected	126		
Farmers assisted with Registration of Purebred Animals			988
Farmers using Department Dehorner			11,48
Livestock sales assisted	44		
Persons otherwise assisted with livestock problems through office calls, farm visits or correspondence			735

Livestock Pests and Diseases

Highlights of this program have been vaccination for control of Bang's Disease and organization of T.B. restricted areas. In these as in related projects, close co-operation between the District Agriculturist, the local veterinarian and the Director of Veterinary Services is essential.

District Agriculturists have been instrumental in arranging for vaccination of approximately 80,000 calves, and in the organization of 5 Municipal Districts which have adopted compulsory control programs.

The restricted area program is province wide and in all districts the Agriculturist has been responsible for much of the organization.

Sixty-four demonstrations were attended by 1,932 farmers. Diseased specimens numbering 417 were forwarded to laboratories for diagnosis. Assistance was given in 4,367 cases with respect to livestock pests and diseases.

Dairying

District Agriculturists have assisted the dairy farmers and the industry wherever interest or the need has been indicated. They have helped locate and select breeding animals, encouraged cow testing, and organized meetings for discussion of production problems. They have visited individual dairy farmers giving information on feeding, housing and the use of labour saving devices. Notwithstanding these efforts, the District Agriculturists report a definite decline in the interest in dairying and find it increasingly difficult to obtain a sympathetic hearing in the field of dairy husbandry.

DAIRY STATISTICS

Demonstrations organized	21
Attendance at demonstrations	1,561
Encouraged cow testing with farm herds	65
Number of special dairy meetings held	61
Attendance at dairy meetings	2,929
Number of farmers assisted with selection and culling	53
Persons assisted through office calls or correspondence with dairy problems	1,009

Junior Clubs

Junior clubs and youth activities consume an estimated 20 to 30 percent of the District Agriculturist's time and office facilities. Continuous pressure is being exerted in some districts to increase the number of clubs to a point where the District Agriculturists cannot adequately supervise the clubs. Any material increase in the number of clubs must be accompanied by the acceptance of increased responsibilities on the part of local club leaders. Junior Short courses, camps and rallies were held in a number of the districts in addition to the usual junior club activities.

Number of Junior Club project demonstrations	312
Attendance at demonstrations, including juniors and parents	13,130
Number of Junior Club meetings held	1,210
Attendance at meetings, including juniors and parents	26,342
Number of judging teams trained	49
Number of youth training short courses, rallies, etc.	51
Total attendance at short courses and rallies	2,217

Agricultural Service Boards

Co-operating with the Service Boards a recorded 59 projects have been carried out dealing with weed control, soil conservation, forage crops, regrassing and erosion control. A total of 101 farms have been taken under supervision or reclamation by the Service

Board. The District Agriculturist is largely responsible for the program designed to rehabilitate these farms and farmers.

Farmstead Planning and Tree Planting

District Agriculturists assisted with the planning of 183 farmsteads including the location and arrangement of buildings and fences, and the planting of trees and shrubs for shelterbelts and ornamentation.

Tree Planting

A marked increase in the number of trees planted in 1951 is in line with the Department's policy to greatly accelerate this program.

Number of windbreaks assisted with plans and plantings	282
Number of field shelterbelts planted	173
Number of roadside projects planted	95

Beekeeping

Seven beekeeping demonstrations were organized to assist beekeepers with their problems. Three hundred and seven beekeepers were assisted in the purchase of package bees, and through correspondence and office calls.

Agricultural Societies and Fairs

Nearly all District Agriculturists give active assistance with the organization and operation of fairs in their districts. In addition, they are called on to judge at fairs outside their own districts. District Agriculturists have worked closely with Agricultural Societies in activities other than fairs, e.g. "Save the Soil" campaigns, better farming competitions, and other community projects.

District Agriculturists have acted as judges on 52 occasions (exclusive of junior club fairs) and assisted with the organization and operation of all Agricultural Societies. They gave help and direction related to Agricultural Societies or fairs to an additional 3,858 persons.

Agricultural Short Courses and Meetings

A steady increase in attendance recorded at these meetings may be considered an indication of the acceptance of this type of extension work.

General Agricultural Short Courses and Meetings	291
Agricultural Meetings addressed by District Agriculturists not listed elsewhere	446
Attendance at meetings and Short Courses	26,611

Special Agricultural Engineering Short Courses, meetings and field days were organized on 118 occasions with 8,506 persons attending. Through office calls and correspondence an additional 1,542 persons were given help and information on related topics.

Farm Labour

Locating and supplying suitable farm labour through the offices of the District Agriculturists has proven to be an increasingly difficult task. The District Agriculturists continue to work closely with the National Employment Service in attempting to cope with farm labour requirements. A summary of the District Agriculturists' reports indicate the following:

D.P.'s placed or replaced	194
Harvesters placed	2,276
General farm help placed	1,401
Placements in other industries	302

Publicity

A number of District Agriculturists contribute regular weekly columns to their local newspaper. Others contribute occasional articles. Response to these columns and articles has been reported to be excellent. A number of these articles have been re-printed by other newspapers and publications. In addition, numerous interviews with newspaper reporters have added to this means of publicity. Radio stations have again co-operated most willingly in putting announcements of Agricultural meetings and events over the air and in reporting meetings and field days. A total of 1,743 newspaper articles were prepared by District Agriculturists during 1951.

Master Farm Family

District Agriculturists received nominations, provided information directed local publicity, and acted on the district scoring committees.

Dams and Dugouts

District Agriculturists in the Peace River area spent considerable time assisting farmers with the location, design, and operation of dams and dugouts for farm water supplies. Dams and dugouts approved under the Peace River Farm Water Supply Assistance Policy inspected and approved by District Agriculturists numbered 88 in 1951.

Miscellaneous

A substantial number of additional activities not listed above under specific headings, and of varying degrees of importance, are shown below:

Organization of livestock feeding associations, district livestock shows, purebred sire areas, livestock improvement associations, community pasture association, re-grassing of grazing lands in special areas, Veterans' Land Act Advisory Committees, Irrigation District Advisory Committee, Potato Production Advisory Committee, small irrigation projects, conservation of existing forest, coyote and rat control programs, special weed control areas, contour farming practices, crop sequence program with Junior Farm Clubs, etc.

Irrigation—C. J. McAndrews, Extension Irrigationist.

The survey and preparation of irrigation lands in the St. Mary River Development proceeded on a considerably larger scale in 1951. A crew of 3 instrument men, 3 rod men and a draftsman was employed throughout the season. These men were required to survey field ditches, boundary lines, contour lines for land levelling and to complete maps showing these details.

The field survey work, drafting, and mapping of the necessary details for new farm lands is well ahead of the construction of main canals, which was slowed to a marked degree because of unfavourable weather and the shortage of both men and materials.

The land levelling work was also retarded to a marked extent by prolonged wet weather and by the inexperience of the operators with this type of operation. An increased acreage of land will require to be surveyed and levelled in 1952. Steps have been taken to increase the survey crew and the heavy land levelling equipment.

It is also planned to double the operating time of the equipment. Some survey work was done outside of the St. Mary River Development.

In addition to the survey and land levelling work, the Extension Irrigationist assisted with general irrigation extension work and gave a two-weeks course of lectures on irrigation at the Olds School of Agriculture.

FIELD SURVEY WORK

Miles Surveyed:	
Miles of field ditches surveyed	222
Number of boundary lines surveyed	30
Miles of survey lines for land levelling	75
Miles of grid lines surveyed for contour mapping	20
TOTAL miles surveyed	347

Land Surveyed:	
Total of parcels	182
Irrigable acreage classified by survey	7,100

LAND LEVELLING

Number of farms levelled under the Colonization program	13
Number of farms on which custom levelling was done	8
Total number of land levelling jobs	25
Approximate value of land levelling jobs	\$8,500.00

OTHER FIELD SURVEY WORK

A survey and design planned for a fill on the Provincial Horticulture Station at Brooks—length of worked area	3 miles
A survey for terracing on a privately owned project at Irvin—of worked area	3 miles
Weed survey and report on Big Bend Irrigation tract while surveying area—copies of reports made	3

OFFICE WORK

Maps:	
Total number of maps prepared	124
Number of printed maps distributed to land owners	36
Number of printed maps issued to the Veterans Land Act Field Staff	29
Number of printed maps issued to the District Agriculturist for farm planning purposes	15
Total number of printed maps made from tracings	192
Reports:	
Number of reports on lands in rough draft form	118
Number of reports on land completed as final draft	50
Number of reports on land worked	118
Number of Classification Price Sheets issued to Colonization Manager	30

GENERAL

Number of farms assisted in farm planning	17
Number of letters written	269
Office interviews	191
Phone calls	206
Total bulletins, circulars and circular letters distributed	484
Number of addresses given	24
Number of farm visits	279

SUMMARY OF DISTRICT AGRICULTURISTS' ACTIVITIES

	1959	1951
Number of meetings	2,613	2,641
Attendance at meetings	152,157	152,310
Farm visits	21,755	21,402
Office interviews	44,818	48,724
Telephone calls	38,892	43,004
Letters written	39,894	30,401
Bulletins distributed	12,104	121,861

HOME ECONOMICS

District Home Economists

There are now 14 permanent District Home Economist offices, one of these being a new office opened at Hanna with Miss Lorraine Shatz in charge. The resignation of Miss Alberta Moreau leaves the Wetaskiwin office vacant. There remains a shortage of suitable and trained Home Economists, all those available being required to staff the Schools of Agriculture.

The fewer staff changes this year made possible a notable increase in the number of demonstrations and the amount of individual assistance given. However, the District Home Economists report that there are still many requests for demonstrations and assistance on file which must be postponed for several months due to the many demands on their services.

The increase in requests for individual assistance through home visits and phone calls indicates that homemakers are becoming better acquainted with the scope of the services of this Branch, and that the Home Economists are gaining the confidence of the homemakers.

Wider use is being made of this Service by other Branches of this Department, other Governmental Departments, and by Provincial and Community Organizations—each requesting assistance with specific projects or programs.

Clothing and Home Sewing

District Home Economists planned programs and demonstrations to assist homemakers to concentrate on buying more efficiently and sewing to get two for the price of one.

One hundred and twenty-nine sewing clinics were attended by 3,225 women. The clinics varied from 2 to 5 days with a total of 524 sessions. One Home Economist reports that she could easily spend three months filling requests for sewing clinics already received for 1952. The others each report an average of 7 unfilled requests on file. Tangible savings to homemakers attending are shown in records of 10 clinics at which 130 new garments were made with a total saving of \$694.50 or 49.6% as estimated by the homemakers. Greater savings are made by the more expert sewers on better quality garments, the greatest saving being on "Made-overs" particularly for children. In addition, 9 other clinics on sewing slip covers, draperies, etc., for the home were held and at 18 meetings dress forms were made.

Lectures and demonstrations were given on related topics as follows: Material and Pattern Selection, 62; How to Dress, 89; Use and Care of the Sewing Machine, 44; with a total attendance of 5,738 women. Also 116 lectures and demonstrations on clothing and sewing were given to Girls' Clubs. Sixty-four newspaper articles were prepared on problems related to clothing. Through home visits and interviews 704 individuals were assisted with sewing problems.

Home Economists report that there is evidence that the women are becoming better informed in the buying of material and in their choice of line and design for clothing for the family. Also the quality as well as quantity of home sewing has improved as evidenced at fairs and other local displays.

Foods and Nutrition

A total of 272 lectures and demonstrations may be grouped as follows:

No.	Topic	Attendance
99	Food Preparation and Service	3,652
63	Food Preservation	1,723
17	Buymanship of Foods	725
55	Nutrition and Meal Planning	1,739
38	School Lunch	1,416

Cooking Schools were held at the Edmonton Short Course and in the Westlock district, demonstrating economical use of food, fuel and time in preparation of family meals. Local stores report a difference in food purchasing practices following the demonstrations.

Food demonstrations and quizzes in which the women participated proved popular methods of presenting food and nutrition information.

Many more individual requests for information were received in 1951. One Home Economist reports over 300 phone calls and personal interviews, 200 home visits, and 300 letters which supplied information on food and nutrition. The greatest number of inquiries deal with home canning and freezing problems.

Demonstrations on packed lunches and lectures on the organization of hot lunches have been given at short courses, home and school meetings and to other interested groups. Seventy-one school visits were made by Home Economists for the purpose of interviews with teachers, nutrition talks to children, observation of school lunches and assistance with school lunch programs. Nine new lunch programs were organized in the fall with prospects of more this winter. Teachers in outlying districts have shown concern about malnutrition among their children, and an effort is being made to reach parents through nutrition education in the school. Reports of improvement in quality of the pupils' lunches have followed the visits of the Home Economists.

Information and assistance was given to several individuals engaged in group feeding. Under the direction of the Home Economists, meal preparation and service at one club camp and one young people's short course was done entirely by the girls attending.

Testing of Varieties for Freezing continued at Brooks with 188 different vegetable varieties and 176 fruit varieties.

Home canning and freezing exhibits set up in 3 local stores by a Home Economist resulted in 58 personal contacts and several letters and phone calls.

Eighteen radio addresses were given on food and nutrition topics, results in the form of letters and contacts being most evident from those given at the Grande Prairie station.

Seventy-nine newspaper articles were prepared on food and nutrition topics.

Housing

Home Economists report a noticeable increase in demand for assistance in remodelling and modernizing farm homes — 101 homes were completely remodelled, 19 living areas and 26 kitchens were fully modernized. This upsurge may be due to the Interior Decoration Home Study Courses that have been sponsored by the District Home Economists for the past three years. Farm women became aware of many ways to improve and beautify their homes and called upon the District Home Economists for assistance.

Assistance was given 26 prospective builders in selecting suitable plans and proper building materials for homes.

Only 25 home study courses in Interior Decoration were given during the year; the decrease is due to the fact that many interested groups had taken it in previous years.

A total of 113 lectures were given to 3,500 persons on the general topics of home planning, remodelling, kitchen planning, interior decorating, home equipment, and rural electrification; 998 individuals received assistance on home improvement projects. Three Home Economists prepared exhibits which were displayed at various local meetings and stimulated further interest in Home Planning and Interior Decoration.

Girls' Club Work

The supervision of Girls' Clubs in the field is carried on by the District Home Economists under the provincial program. Instruction is given in most phases of homemaking—Foods, Clothing, Home Decorating and Gardening. Besides this the Home Economists guide the social and community work done by these clubs. An opportunity is provided for contact with the parents and for many home visits.

In 1951, the District Home Economists supervised 140 Girls' Clubs with a membership of 1,784. All clubs held Achievement Days which were judged by the Home Economists. In some districts joint Achievement Days were held involving several clubs. Since 6,883 people attended these Achievement Days they provided an opportunity for the Home Economists to contact many adults.

A number of Home Economists assisted in the supervision and instruction of Leaders' Courses, Short Courses and Fair Camps. Twelve rallies were held with an attendance of 1,128. There were 52 tours with 857 attending.

Besides this the District Home Economists have given radio talks on club work, held 24 leaders' meetings where instruction in the project work was given and prepared teams for the Provincial Judging Competitions. One hundred and eighteen former club members were given assistance in homemaking, educational or vocational problems. On the average, 30% of the District Home Economists' time was spent on club work.

For the third year in succession the Food and Clothing teams have placed first at National Contests. The Garden team, entering for the first time, placed second. Much of the success of these teams is due to the work done with them by the Home Economists.

Home Management

Considering that many phases of Home Management are of a personal nature, it is encouraging to note that individual assistance given to homemakers more than doubled this year, 666 homemakers having requested specific help.

In addition, there was an increase in the number of lectures and attendance, 5,518 women having attended 20 lectures on "Time and Energy Savers," 136 on "Buymanship and Care of Textiles, Foods, Equipment or Home Furnishings," and 12 on "Home Safety." Fifty-seven newspaper articles were prepared dealing with these topics.

Family Relationship

Although work in this field was carried mainly by two Home Economists, the number of lectures almost tripled with 4,138 attending 32 lectures dealing with general topics such as: "Parents, Take Stock of Yourselves," "Inoculating for Character," "Grow-

ing Up—Whose Responsibility," "Building Happy Family Relationships," and 57 lectures on Child Guidance and related topics, e.g. "Understanding Our Parents," "Cues for You," etc.

There were 74 individual requests for guidance with personal and family problems.

Seven newspaper articles were prepared and 3 radio addresses given on this subject.

Handicrafts

As women's groups in the various districts become better acquainted with the scope of the services of their District Home Economists, the demand for handicraft demonstrations is being transferred to a demand for assistance with more fundamental needs. This, of course, is encouraged by the Home Economists who also attempt to confine their handicraft work to types of practical and lasting value, such as rugmaking, leathercraft, glovemaking, etc.

As a result, there was a drop in the amount of handicraft instruction given, 115 demonstrations being held with an attendance of 2,665. Individual assistance was given to 264 persons, 9 of whom earn their living from handicrafts.

Since many may, through handicrafts, make their homes more attractive and comfortable or find a satisfying activity for evenings on the farm and ultimate old age, the work done in this field is limited only by consideration of priority of other fields of service and needs of the district.

Other Demonstrations and Lectures

There were 72 meetings attended by 2,489 women and girls and 193 individuals assisted on topics related to etiquette, entertaining, table-setting, special occasions and flower arrangement.

There were 58 general talks outlining the services of this Branch, 110 dealing with Women's Work, 143 with Girls' Club Work and 35 about the Schools of Agriculture—the total attendance being 10,384. Specific information was given 1,828 persons.

Short Courses, Field Days and Meetings in Co-operation With Other Organizations

District Home Economists lectured and demonstrated at 212 short courses and field days; 106 of these were in co-operation with the District Agriculturists, 25 with the Canada Department of Agriculture, 7 with the University Extension Service and 60 with Agricultural Service Boards. In addition, 34 meetings were at the request of other organizations such as Rural Health Units, National Film Board, Chamber of Commerce, Canadian Association of Consumers, Women's Press Club, Department of Education, Exhibition and Fair Boards. Advice and assistance are also sought by local organizations such as School Boards, Fair Boards, Relief Services and Social Service Clubs, etc.

The District Home Economists are called upon for assistance in arranging programs and entertainment at Conventions of Provincial and National Organizations, e.g., Municipal District Convention, Provincial Seed Growers, Provincial Beekeepers, Dairy Convention, Frozen Food Locker Assoc., W.I. and F.W.U.A. Conventions.

Judging at Fairs, Conventions and Women's Institute Conferences

District Home Economists judged at a total of 123 fairs, conventions and conferences as well as 177 Club Achievement Days. "Standards for Judging" were discussed at 59 meetings. Assistance has been given several Fair Boards and other organizations in revising their "Prize Lists" and a new publication "Standards for Judging Foods, Clothing and Handicrafts" has been prepared to assist in improving the educational value of Fairs and similar exhibits. Home Economists assisted in the organization of 12 Fairs and prepared 13 Exhibits at Fairs or Conventions.

Radio, Newspaper Articles and Newsletters

A total of 71 radio addresses were given on timely topics of interest to rural homemakers and girls.

Three hundred and ninety-one newspaper articles were prepared for 29 different local papers in the Home Economists' districts. Eleven of the Home Economists prepare regular weekly columns for local papers. To keep in closer touch with women's groups, District Home Economists prepared 66 newsletters containing timely information and announcement of new programs, services and publications.

D.P. Domestic Workers for Farm Homes

While a number of applications have been received and inquiries answered, the work with D.P.'s has been confined mainly to the Edmonton district. Sixteen domestics are still under agreement and 6 new arrivals have been placed. Ten of these were transferred a total of 24 times. When necessary, assistance was given with D.P. couples placed on farms.

Other Activities

The Home Economists assisted in scoring 32 farm families nominated to the Master Farm Family Award and also assisted in the Regional Judging.

Assistance was given the Edmonton District Agricultural Society in judging the 37 entries in their Farm and Home Improvement Competition.

SUMMARY OF ACTIVITIES, ETC.

	1950	1951
Number of Demonstrations	1,814	2,047
Field Days and Short Courses	129	212
Attendance	63,787	80,928
Average attendance	35.1	35.9
Judging at Fairs, Conventions	98	123
Radio Addresses	57	71
Publications distributed	73,775	70,235
Letters requesting information	12,755	13,342
Home visits	2,034	2,477
Girls' Clubs	139	140
Office interviews	3,598	2,925
Phone calls for information	6,158	7,157

FOODS AND NUTRITION

School lunches have received concentrated attention. Stimulus has been given by the showing of colored slides of the Chauvin School Lunch Program together with the story of the Chauvin and Barrhead program which appeared in The Country Guide. This story, written as a result of school visits arranged for by the Extension Nutritionist through the District Home Economists, has instigated an increased number of requests for help in planning hot

lunch programs. The colored slides taken by the District Agriculturist of Willingdon have been used by the Extension Nutritionist and also by several of the Home Economists.

A total of 44 lectures and demonstrations on food and nutrition topics were given by the Extension Nutritionist, with a total attendance of 2,139. The decrease of 16 lectures from last year is more than counteracted by an increase of 61 lectures on these topics given by the District Home Economists. Those given by the Nutritionist included thirteen Adult Short Course Programs, eight Home and School Meetings, twelve lectures to school groups, five to girls' clubs, two to Nutrition Study Groups, two cooking schools, and the remainder to other adult groups.

Correspondence has included 81 replies to requests for information on food and nutrition topics. The greatest number of requests continue to be for help with home canning and other food preservation problems. Other requests include those for advice on meal planning, meat cookery, the use of milk and milk products, the use of herbs in cooking, vegetable cookery, special diets, general food preparation, and general nutrition information. Eight requests were received for information on quantity food preparation or menu planning. Assistance was given to the Edmonton Council of Social Agencies in evaluation of menus, menu planning and food purchasing for the Kiwanis Home. A request for assistance in solving meal service problems at the Institute for the Blind was also attended.

Preparation was made for a three day course in quantity cookery to be held at the Olds Schools of Agriculture in July. Insufficient applications were received to justify the course. A considerable amount of material which had been prepared for the course was sent out to individuals (notes on menu planning and food preparation).

Radio addresses in 1951 included two on meal planning, one on school lunches, and one nutrition book review. Sixteen newspaper items were prepared for the Agricultural Notes and one article on School Lunches was written for the Home and School Magazine.

Publications included completion of the leaflet "Three Way Meal Planning," revision of "Wild Rose Hips for Vitamin C," and two sections for a new Girls' Club Project "It's Lunch Time." The new school lunch bulletin has been sent out in mimeographed form to interested groups.

HOME DESIGNING

Remodelling

An extensive program of remodelling and modernizing the farm home was carried on this year. The remodelling kit was issued to 90 home owners who received scale plans of possible improvements to their present home. The main request was for new kitchen plans (47); especially in areas of rural electrification.

A progress plan of remodelling was worked out for the 14 homes which are to be altered to suit changing farm conditions, the size of the family and the advent of electricity; the complete transformation will take place over a period of years. Assistance was given in purchasing new building materials, equipment and home furnishings. Photographs were taken of a few of the houses

in their present state to be followed by others at each stage of the work. One of the homes recently completed was photographed for a documentary film on Government Services.

Home Planning

Plans for 40 homes were distributed and advice was given regarding plan alterations, building materials, furniture, equipment and interior decoration.

Seven lectures on home planning were given in various rural districts. During the University Community Life Conferences held at Beaverlodge and Fairview, a forum was conducted on Farm Home Planning. Types of construction, building materials and floor plans were discussed.

Prairie Rural Housing Committee

The booklet, "Farm Kitchens and Utility Rooms" was completed this fall. Several trips to Winnipeg were made in order to work in collaboration with the architects of the Prairie Rural Research Centre. They assisted greatly in the preparation of illustrations, layout and script.

Home Study Course

The Interior Decoration Home Study Course was not distributed as extensively this year as in the past two years. Twenty-five groups representing 497 rural and urban women undertook the project. The results of a course of this type are apparent in the increased number of remodelled and redecorated farm homes.

Other Activities

Twelve monthly newsletters on home planning, interior decorating, labour saving devices and home furnishings, were distributed to the field staff and a large rural mailing list (343).

One radio talk was given on "New Trends in Kitchen Decoration."

A great deal of time was spent on accumulating new demonstration equipment. Slides, samples of new products, and illustrations suitable for exhibits or lectures were added to the existing material.

During the summer the Extension Home Designer gave a series of lectures on Interior Decoration and Farm Home Planning during the Community Life Conferences held at Beaverlodge and Fairview.

Future Projects

The new booklets, prepared by the Prairie Rural Housing Committee, have been completed and will lend themselves to Home Study Courses. The subjects of Planning the Farm Home, Kitchen and Utility room planning and Remodelling the Farm Home will be handled in the same manner as Interior Decoration Home Study Course.

Report of Veterinary Services Branch

E. E. BALLANTYNE, V.S., D.V.M., Director

J. G. O'Donoghue, V.S., D.V.M., Extension Veterinarian

C. H. Bigland, V.S., D.V.M., D.V.P.H., Veterinary Pathologist

G. S. Wilton, V.S., D.V.M., Veterinary Pathologist

G. K. Weir, V.S., D.V.M., Micropathologist

General

The work of the Branch has kept increasing as livestockmen and poultrymen are realizing that it pays to prevent and control diseases. All practising veterinarians also report an increase in the number of calls.

No serious outbreaks of diseases were noted during the year, except more cases of haemorrhagic septicemia (shipping fever) of cattle being reported during the Fall and early Winter. The majority of these occurred where animals were purchases through stockyards, and travelled long distances by rail or truck. Poor attention to the animals on arrival at the farm or feed lot was a contributing factor in some cases. The injection of bacterin at the Stockyards just prior to shipment was another serious contributing factor as such a practice actually lowers the animals' resistance.

Bacterins should be given at least two to three weeks prior to shipment which allows the necessary ten days for antibodies to be produced in time to give protection for the dangerous period.

A survey of the practising veterinarians showed that the majority of swine diseases were basically the result of faulty nutrition and management. Anemia, iodine deficiency, rickets, nutritional enteritis, internal and external parasitism, etc., are diseases in this category. It is estimated fairly accurately that the loss in net income from hog diseases amounts to \$2,500,000 annually in Alberta. Much of this could be eliminated if the already known facts about swine nutrition were adopted by those in the industry.

T.B. Restricted Areas

During the year, approximately 120,000 cattle were tested by the Federal Health of Animals Division. The majority of these were in the eight municipalities that were declared additional T.B. Restricted Areas in 1951, making a total of 23 such areas in force at the end of the year.

Petitioning of cattle owners, as the first step in establishing T.B. Restricted Areas, was completed in 45 municipal and improvement districts, etc., in 1951. Four of these were declared Restricted Areas in the year. The District Agriculturists acted as local organizers in all cases. At the end of the year, 52 districts were ready for testing.

The following map shows the status of the Alberta T.B. Restricted Area Program at the end of 1951.

BRUCELLOSIS CONTROL

(A) Calfhood Vaccination Program

The adverse weather of the Fall and early Winter caused the postponement of the vaccination of many calves until January, 1952, but even so, the total number of calves vaccinated in 1951 greatly increased over the previous year, as shown in the following graph:

The majority of municipalities, etc., now have vaccination campaigns organized by the Agricultural Service Boards or district agriculturists. These campaigns are very educational even although the cattleman doesn't get his calves vaccinated at once.

(B) Brucellosis Restricted Areas

There are now seven municipalities operating as such areas, namely: Starland No. 47, Wainwright No. 61, Vermilion River No. 71, Beaver No. 73, Strathcona No. 83, Pincher Creek No. 9, and Athabasca No. 103. The last five named were established during the year. Several more municipalities are interested in the same plan which calls for the vaccination of all heifer calves for several years. This appears to be the most economical and practical method of preventing and reducing losses in Western municipalities.

(C) Diagnostic Service

The number of agglutination tests for the diagnosis of bovine brucellosis totalled 24,141, which was a slight reduction from the 1950 total. This was not unexpected, as other laboratories in the past have shown the same reduction in blood testing when the calfhood vaccination program gets well underway. Our emphasis has been to promote vaccinations as providing the most value to the cattle industry, not blood testing. Again a high percentage of tests were made to find out if the milk was safe to drink, as cattlemen are anxious to protect their families from undulant fever. Mention should be made here that one veterinarian developed undulant fever during the year and two had severe reactions due to accidental injections of *Brucella abortus* Strain 19 vaccine while vaccinating calves.

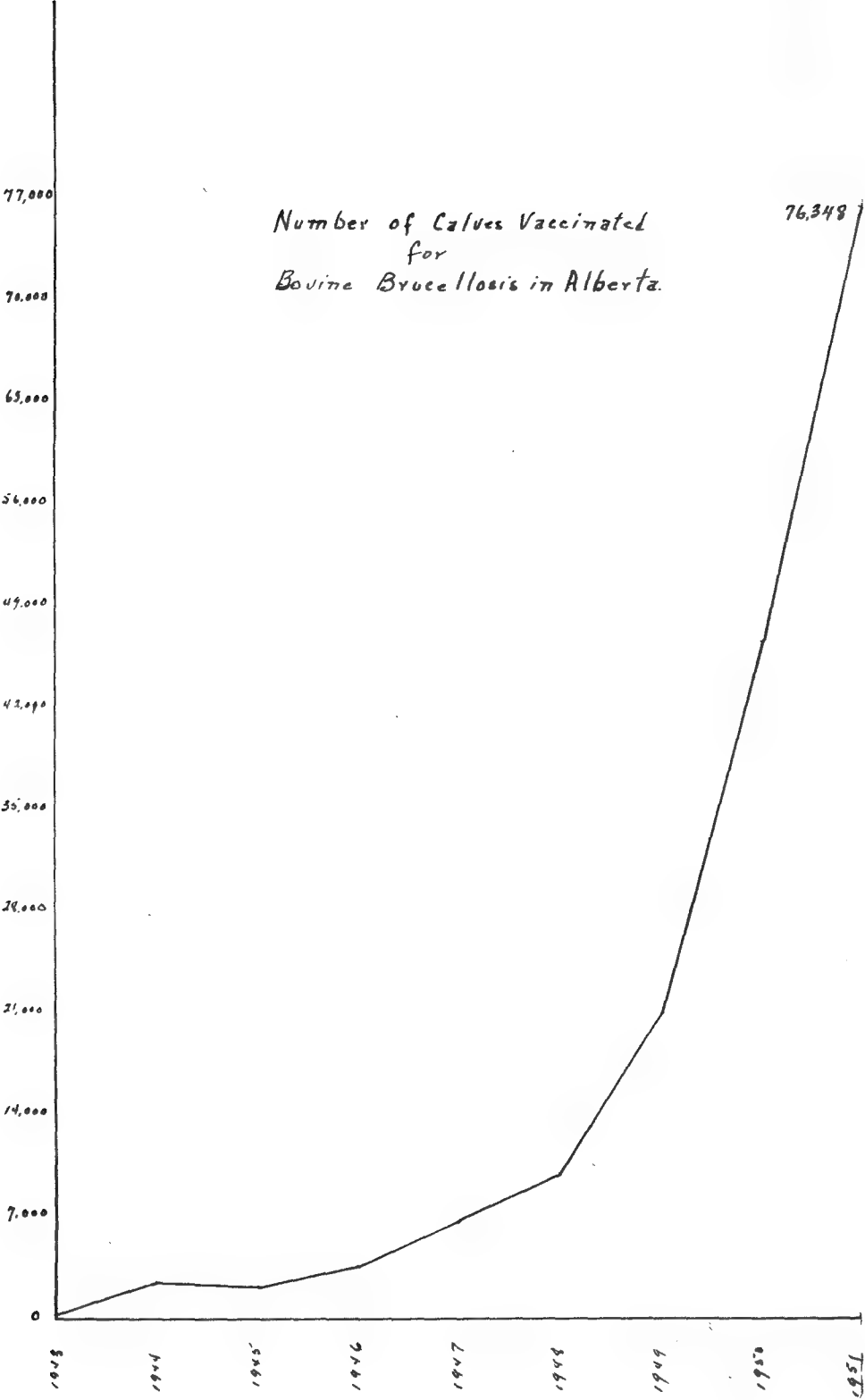
(D) Educational

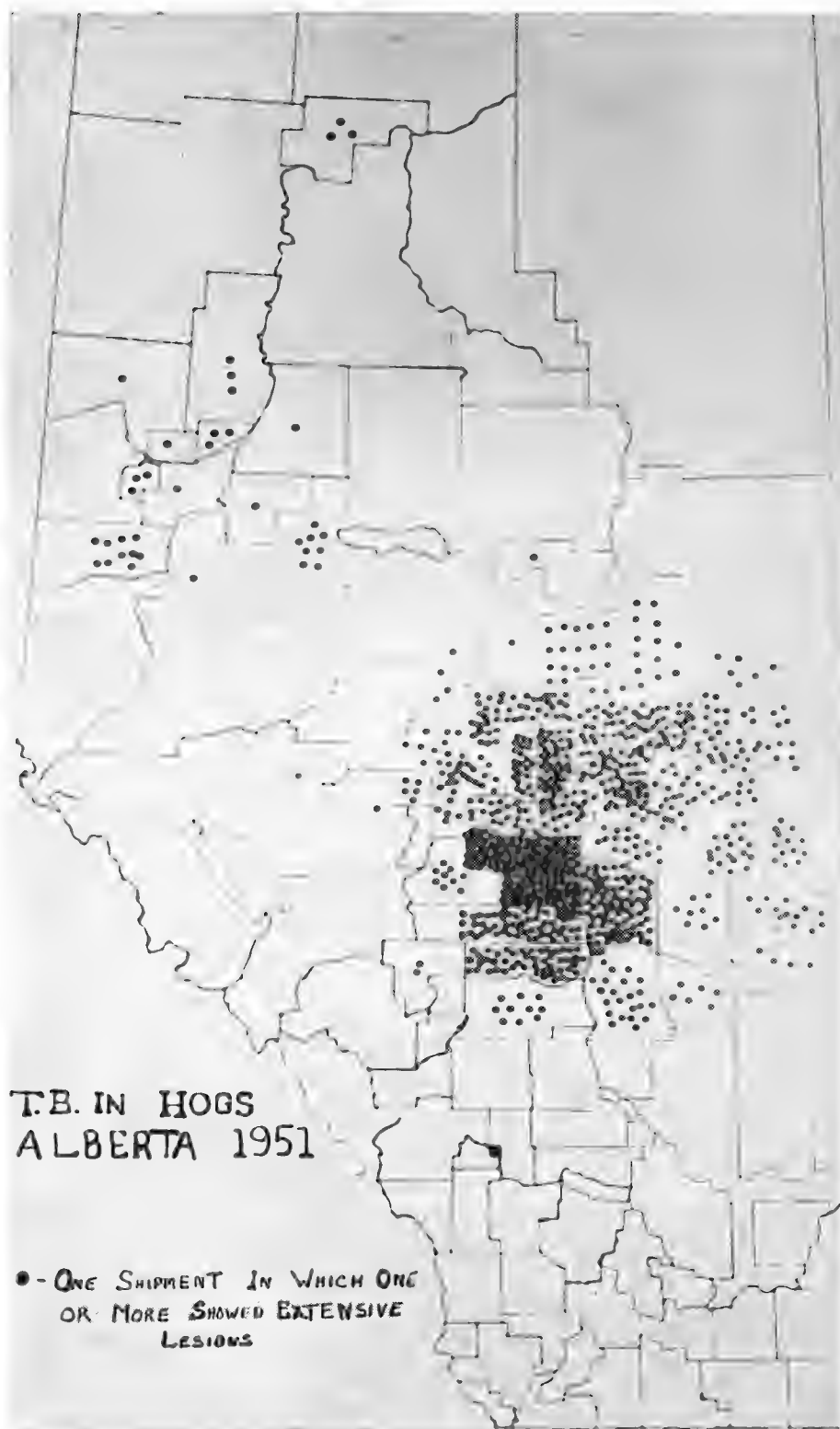
Again a large number of meetings were addressed on brucellosis so that cattlemen will be conversant with the disease and the necessary preventative measures. Radio talks were given, articles written for livestock journals, and press releases issued. A large number of enquiries were answered and bulletins distributed.

T.B. in Hogs and Poultry

During 1951, 1,004 hogs out of 6,061 in 916 shipments to the Edmonton Packing Houses showed extensive lesions of tuberculosis. Hogs from 45 premises showed such lesions on two or more shipments. 159 hogs were condemned and 46 rejected due to tuberculosis. The number of infected shipments was 47 less than during 1950.

The following map shows the municipality of origin of infected shipments:





The educational program of sending an instructive letter to all owners of infected shipments was continued.

Starting in June, the district agriculturists were informed of all infected shipments and visited as many premises as time would permit. Questionnaires were completed on a number in an effort to get basic information as to why there is so much tuberculosis in Alberta hogs and poultry. The following are some of the facts revealed:

"The average number of hogs per farm was 39; the average number of hens per farm was 84; 98% of the pigs were raised on the premises; 75.6% of the owners kept some hens longer than 1 year; only 44% raised the chickens separate from the old hens; 95% had hens become sick or die monthly about 1 year of age; 68% of the hogs' pens were so constructed that they could be cleaned thoroughly, but only 23% were disinfected routinely; 62% of the poultry pens were cleaned and disinfected in the Spring; 75% cleaned the poultry house before a new flock was brought in; 97% bought day-old chicks; 12% bought all or some adults; the poultry run in the hog yards on 90% of the premises and in 92% of the hog pens; 20% feed dead poultry to the hogs; only one owner reported burning dead birds; swill from the house is fed to the pigs on 79% of the places, hogs have access to poultry manure in the barnyard; veterinarians were consulted in 40% of the cases; T.B. has been positively diagnosed in hens on 51% of the places, more to be submitted as hens die in the future.

The number of questionnaires is not large enough yet to be statistically sound, but the answers do give an indication of faulty management practices that do contribute to the incidence of the disease. An effort will be made to finally get 500-1,000 questionnaires for analysis.

Swine Erysipelas

This disease is apparently the most common and widespread infectious bacterial diseases of swine of economic importance in the province. A survey of the practising veterinarians showed that they were called to treat hogs on approximately 500 farms, extending from the Peace River Block to southern Alberta, in 1951. A majority reported that the disease was on the increase, only three reporting a decrease in their districts. The laboratory report also shows an increase in the number of cases diagnosed in the past year.

According to the survey, all ages of hogs were affected, from weaners to sows, with the majority of cases in the two to six month range. 46% of the cases were acute, 35% chronic, and 19% of the diamond skin form. Summer is the worst season, with Fall, Spring and Winter following in that order.

Veterinary Students

Fourteen students from Alberta are attending the Ontario Veterinary College. The number in each year is as follows:

First year	2	Third year	4
Second year	3	Fourth year	5

Ten Albertans graduated from the College in 1951, and started practices in Brooks, Pincher Creek, Calgary, Eckville and Grande Prairie. Others opened offices in Taber, Strathmore, Edmonton,, and Lloydminster.

Veterinary Civil Defence

Considerable time was spent during the year in helping to organize the veterinarians, district agriculturists and others into the Animal Health Emergency Organization which is co-ordinated with Provincial Civil Defence for the purpose of safeguarding the health of the livestock industry against such plague diseases as foot and mouth disease, rinderpest, etc. The Animal Health Emergency Organization operates under the Animal Contagious Diseases Act, administered by the Federal Health of Animals Division.

Report of the Veterinary Laboratory

The day of guessing is past and a definite diagnosis has to be made to get maximum efficiency from treatment with the drugs and antibiotics produced in the past decade. In many cases, this information can only be obtained through a laboratory examination employing post mortem bacteriological, micropathological and serological techniques. The laboratory work also gives fundamental information which is of importance as the basis for proper prevention and disease control measures.

The laboratory was visited by the delegations from Pakistan and India, as well as medical students from the University of Alberta, farm groups, a group of Alberta Indian Chieftans, and others.

Again the work of the laboratory has greatly increased, as shown by the following sectional reports:

A. Extension Services

Duties of the Extension Veterinarian are as follows:

1. Investigational and service trips to reported disease outbreaks at the request of Veterinary Practitioners, and to districts not adequately serviced by Veterinarians.
2. Lectures on Veterinary Science to the students in Agriculture and Pharmacy at the University of Alberta.
3. Lectures on Animal Sanitation and Disease Control to students in Agriculture at the Olds and Vermilion Schools of Agriculture.
4. Supervision of the Mink Distemper Vaccine Bank and the Distemper Vaccine Assistance Plan.
5. Supervision of the distribution of Strain 19 Brucella Vaccine issued under the Federal-Provincial Calfhood Vaccination Program.
6. Supervision of maintenance of accurate records for Government sponsored Mastitis Control Programs.
7. Routine Laboratory work.

Summary of Extension Activities

Investigational and Service Trips:			
Cattle	85	Fur Animals	25
Sheep	11	Poultry	5
Swine	30		
Horses	13		169
Meeting Attended:			
Extension Veterinarian	27	Other staff members	58
Radio Talks			9

Cattle

1. Shipping Fever continues to cause heavy losses despite the efforts that are being made to familiarize livestock owners with the proper methods of prevention and control. There was an improvement over the preceding year and it is hoped that losses will continue to decline.

2. There were several instances of death in cattle with symptoms and lesions similar to Black Leg. Present evidence would indicate that other members of the Clostridium group of bacteria are involved but unfortunately, the problem has not yet been solved.

3. The herds of the University of Alberta Farm and Olds School of Agriculture were blood tested and all heifer calves vaccinated for Brucellosis. The herd of the Vermilion School of Agriculture was blood tested for Brucellosis and tuberculin tested for tuberculosis.

The herds of the Ponoka and Oliver Mental Institutes are under the supervision of this branch.

Mastitis Control Programs

There are several Government Sponsored Mastitis Control Programs available to Alberta Milk producers. All milk samples are examined at the Provincial Dairy Laboratory at no charge. The Veterinary Laboratory is responsible for maintenance of complete and accurate records in order that results may be properly assessed and the programs adequately supervised.

1. Provincial Mastitis Program

This is a private agreement between the herd owner and his Veterinarian. The necessary sampling vials and herd books are supplied by the Department and there is no charge for the laboratory examination of the milk samples.

There were 38 herds under this program in 1951.

2. Edmonton Brucellosis and Mastitis Control Program

This special program has been available to milk shippers in the Edmonton Milk Shed for several years. It was a co-operative effort among milk shippers, distributors, veterinarians and the Department of Agriculture. There were 11 herds under the program in 1951 but due to the poor response from the herd owners the program may be discontinued this year.

Mastitis Control Programs have proven highly effective and economically sound. To be successful, however, the herd owner must show a conscientious interest and be willing to carry out the recommendations for the prevention of the disease and adapt sanitary milking procedures.

Swine

The herds of origin of all swine going to the Royal Winter Fair were inspected for Rhinitis. All premises inspected were free of the disease.

Horses

As required by the Stallion Enrollment Act, 11 stallions were inspected and passed.

Fur Animals

Distemper outbreaks reached alarming proportions in 1951. There was a total of twenty-five diagnosed outbreaks. This figure does not include unreported cases and it is certain that all were not reported. It is not known whether or not this indicates that the disease is increasing or if the number of outbreaks will be fewer next year.

With the exception of distemper the death loss on Alberta Fur Farms in general, can be attributed to diseases nutritional in origin and poor management practices.

Alberta continues to be free of virus enteritis, a serious disease of mink prevalent in parts of Ontario. If ranchers are careful in the importation of breeding stock Alberta will remain free of the disease.

(1) Distemper Vaccine Bank

The purpose of the bank is to maintain a readily available supply of mink distemper vaccine. It is supplied to ranches at approximately cost price. A total of 3,840 cc's or doses were supplied to 14 fur ranchers in 1951.

(2) Alberta Distemper Vaccine Assistance Plan

This plan was formulated in 1950 at the request of the Alberta Fur Breeders. Distemper constitutes the greatest threat to Alberta fur farms and control measures are warranted for the protection of the industry. For the purposes of the plan Alberta is divided into districts according to the location of the fur ranches. Any district may be enrolled by forwarding to the minister a petition signed by sixty-six and two-thirds of the fur ranchers, the petition to be accompanied by an assessment of five cents per head for every mink on each ranch as of the first of July. The ranchers must also agree to maintain accepted standards of sanitation and disease control methods. The plan is in effect from September 1st to August 31st of the following year and must be renewed yearly.

The Department of Agriculture agrees to supply, free of charge, mink distemper vaccine for confirmed distemper outbreaks which occur in a district on the ranch of a subscriber. In addition vaccine is made available at a 50% reduction of cost price to any subscriber within a defined dangerous area of the infected ranch.

Alberta is the only province in Canada with such a program for the protection of its Fur Farming Industry.

During the period September 1, 1950, to August 31, 1951, there were eight outbreaks of distemper, for which 7,790 cc of vaccine were supplied. An additional 950 cc of vaccine were supplied on the 50% cost basis. Nine outbreaks of distemper occurred from September 1 until December 31, 1951. 5 120 cc of vaccine were supplied free of charge and 1,840 cc at the reduced rate.

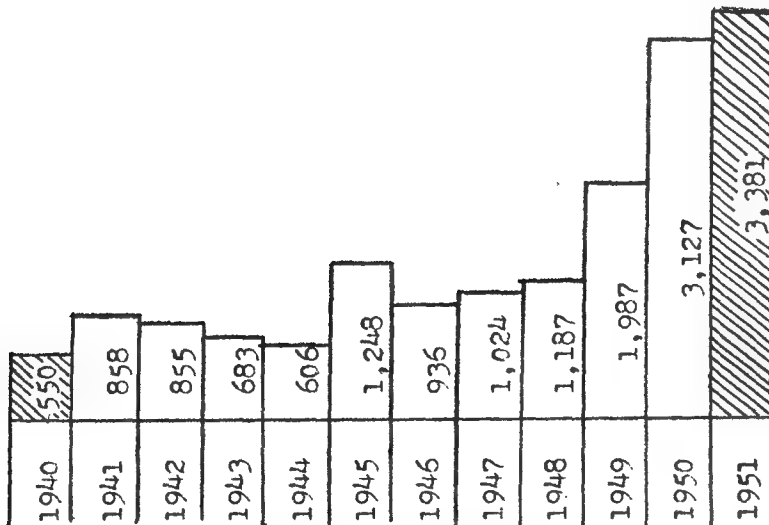
Autogenous Vaccine

On occasion, when commercial mink distemper vaccine has failed to check an outbreak after two inoculations autogenous vaccine is produced in the laboratory from infected animals. It is supplied free of charge. In 1951, 9,900 cc's were distributed.

B. Animal Disease Section

The number of specimens submitted to the animal disease section under the direction of Dr. G. S. Wilton again showed an increase over that of the previous year, as shown by Table I. The number of specimens examined this year were 3,381 with 1,614 assignments. In addition there were 24,141 cattle bloods tested for Brucellosis. Table II reveals that the number of cattle specimens examined are in the majority, followed by swine and then mink. There were 17 different species of animals examined and 79 different diseases or conditions were found. A study of the tables will reveal the variety and volume of work covered.

TABLE I.



ANIMAL SPECIMENS
DIAGNOSED SINCE OPENING LABORATORY

TABLE II.—SPECIMENS, 1951

Species	Live	Dead	Portions	Totals
Caribou	...	...	2	2
Cat	...	3	7	10
Cattle	...	30	858	896
Chinchilla	3	31	2	36
Deer	...	2	3	5
Dog	8	27	102	137
Elk	1	1	12	14
Guinea Pig	2	2	...	4
Horse	...	...	29	29
Marten	...	3	...	3
Monkey	...	2	...	2
Mice	2	1	...	3
Mink	93	243	4	340
Rabbit	5	89	20	114
Sheep	8	24	62	94
Swine	131	339	344	814
Wolf	...	...	2	2
Blood samples	...	...	70	70
Fecal samples	...	...	14	14
Feed samples	...	...	66	66
Milk samples	...	...	373	373
Urine samples	...	...	59	59
Water samples	...	...	31	31
Miscellaneous samples	...	...	109	109
Laboratory animals	41	112	...	153
TOTALS	302	910	2,169	3,382

BLOOD TESTS FOR BRUCELLOSIS (BANG'S DISEASE), 1951

	Provincial Blood Tests	Per- centage	Dominion Blood Tests	Per- centage	Total No. of Blood Tests	Per- centage
Number Positive	3,370	9.8%	37	6.5%	2,407	9.7%
Number Suspicious	1,054	4.4%	9	1.6%	1,063	4.3%
Number Negative	20,521	85.0%	522	91.9%	21,043	85.2%
Number Broken or Hemolized	196	.8%			196	.8%
Total No. of Blood Samples	24,141	100%	568	100%	24,709	100%

Nutritional Diseases

The control of nutritional diseases is one of the first essentials of successful livestock production. During the year we have examined many animals affected with some nutritional disease. Rickets was noted in , 38 pigs, 9 mink and 4 cattle specimens. In a rachitic condition the normal amount of calcium salts is not laid down and as a result the bone contains, an undue amount of connective tissue. The bone lacks strength and as a result is deformed. The disease is caused by an inadequate intake of calcium or phosphorous or both or to a faulty proportion of those minerals in the diet, together with a deficiency of Vitamin D. A deficiency of this vitamin and calcium is the chief cause of rickets.

Vitamin deficiencies are commonly found in specimens received. Many cases of Vitamin B deficiency occur especially in mink and hogs but other species of animals are also affected. Vitamin A deficiency was noted in, 54 swine, 3 sheep, 11 mink and 2 bovine animal submissions. The owner so often forgets to include a good grade fish oil in the diet during the winter when green feed is not available. The owner may feel that the animals will get their vitamin A from alfalfa, but such may not be the case as the vitamin A may be depleted from this source by spring.

Suggestions on the prevention of anemia in pigs are given verbally, by letter, pamphlet and radio, yet the condition still exists. The condition was found in 63 pig specimens submitted during the year. Farmers forget or do not bother to give the reduced iron to their new born litters on the 3rd, 10th and 17th days of life. They forget that the sow's milk does not supply the young litters with iron so it is apparent that continual education in this regard is very essential.

Nutritional anemia is quite commonly found on the mink ranch. However, in the mink it has been found that liberal amounts of iron do not safe-guard against this disease, if one or more of the vitamins are absent. The addition of one-half ounce of liver daily per mink to the diet, will prevent anemia under normal conditions.

Mastitis

In addition to the milk samples received and examined under the Department's Mastitis Programs by the Dairy Laboratory, we received many samples at the Veterinary laboratory. These samples are submitted by veterinarians from acute cases of Mastitis.

There were 375 bovine milk samples examined and the results are listed in the table below. In addition 5 milk samples from sheep revealed evidence of Mastitis.

MASTITIS TABLE

Hemolytic staphylococci	89
Hemolytic streptococci	76
Hemolytic colon	34
Corynebacterium	4
Negative	170
TOTAL	373

Salmonellosis (Parathyroid)

Twenty-eight animal specimens submitted to the laboratory during the year revealed *Salmonella* infections. The isolations were made from the dog, mink and hog. This infection often caused food poisoning in man and for this reason the Provincial Public Health laboratory was interested and kindly typed the cultures we isolated. The following table lists the types identified, the species of animal affected and the geographical location.

SALMONELLA TABLE

Type	Species	Location
<i>Salmonella</i> bredeney	pig	Lacombe
<i>Salmonella</i> bredeney	pig	Edmonton
<i>Salmonella</i> cholera-suis	pig	Edmonton
<i>Salmonella</i> paratyphi B	pig	Edmonton
<i>Salmonella</i> cholera-suis	pig	Lacombe
<i>Salmonella</i> derby	dog	Camrose
<i>Salmonella</i> typhi-murium	mink	Wetaskiwin
<i>Salmonella</i> javiana	mink	Faust

Although there was no connection, it is interesting to note that at the time we isolated the *Salmonella* derby from a dog, a human patient was in the city hospital suffering from the same type of infection. Public Health authorities were interested in learning the location of the animal infection to determine, if there was any connection. It is also interesting to note that the *Salmonella* javiana isolated from the mink had never been isolated from man or animal in Canada previously. This ranch had only purchased one male animal from the U.S.A. in the past year and we have not as yet been able to determine the origin of the infection.

Biological Products

Autogenous bacterins and vaccines have been prepared at times throughout the year in an endeavour to curb certain diseases of livestock. The table below lists the products, the amount, the species of animal involved and the disease.

Product	Amt. in cc's	Species of Animal	Disease
Aut. mink distemper vaccine	9,900	Bovine	Distemper
Autogenous wart vaccine	1,500	Mink	Bovine Papillomatosis
Aut. mixed bacterin	2,000	Porcine	Salmonellosis
Aut. Pasteurella bacterin	1,500	Porcine	Atypical Pasteurellosis
Aut. Staphylococci bacterin	500	Mink	Boils

Poisons

The Provincial Analyst, J. A. Kelso and his associate, C. E. Noble, have examined several hundred specimens for the animal disease section of the Veterinary laboratory the past year. The number of specimens affected with poison showed a marked increase, which proves that the possibility of some form of poisoning must not be over-looked. It will be noted that they found 340 cases of poisoning which may be broken down as follows: 88 cases of arsenic poisoning (cattle, dog, mink and swine), 98 cases of lead poisoning (cattle, chinchilla, dog and swine), 7 cases of nitrate poisoning (cattle), 23 cases of sodium chlorate poisoning (cattle), 42 cases of strychnine poisoning (cat, dog and swine), 70 cases of plant poisoning (cattle, horse, sheep and swine), 12 cases of algae poisoning (cattle and swine).

Laboratory Animals

These animals were used to assist in making a diagnosis, to determine the pathogenicity of the bacteria isolated and for experimental work. All animals used were carefully examined and cultured.

LABORATORY ANIMALS	
Rabbits	16
Guinea Pigs	93
White Mice	39
Ferrets	5
TOTAL	153

Diseases in the Elk at the Park

In the spring 75 Elk were brought in to corrals at Elk Island National Park. The animals were corraled for one month before any symptoms were noted. Following that period of time, over 40 animals were lost in a matter of a few weeks. The loss of control of the hind legs, inability to walk, with death occurring in 12 to 24 hours later were the main symptoms.

Specimens from an animal examined at the Park and also a live and a dead animal were submitted for laboratory examination. At a later date two more animals, one live and one dead, were also submitted.

The predominant lesion was an acute haemorrhagic inflammation of the intestinal tract, and acute inflammation of the mesenteric lymph glands. The above organs, kidneys, liver and spleen were cultured. We were able to isolate a gram negative bipolar rod belonging to the genus *Pasteurella*, which was pathogenic to guinea pigs and white mice. Identity of the bacteria isolated was confirmed by the Provincial Public Health Laboratory as belonging to the genus *Pasteurella*.

Basically, it would appear though, that the excitement of being confined, coupled with subsistence in feed low in vitamins was the underlying cause of the trouble. No further losses occurred when the elk were turned out in a green pasture field.

Coccidiosis

This disease is not as commonly found in the animal kingdom as it is in the poultry family. However, outbreaks do occur in different species of animals and some farms suffer heavy losses when the disease becomes established in their bovine herds. Nine cases of coccidiosis in cattle, 19 cases in rabbits and 1 in cat were diagnosed at the Veterinary Laboratory during the year.

C. Poultry Disease Section

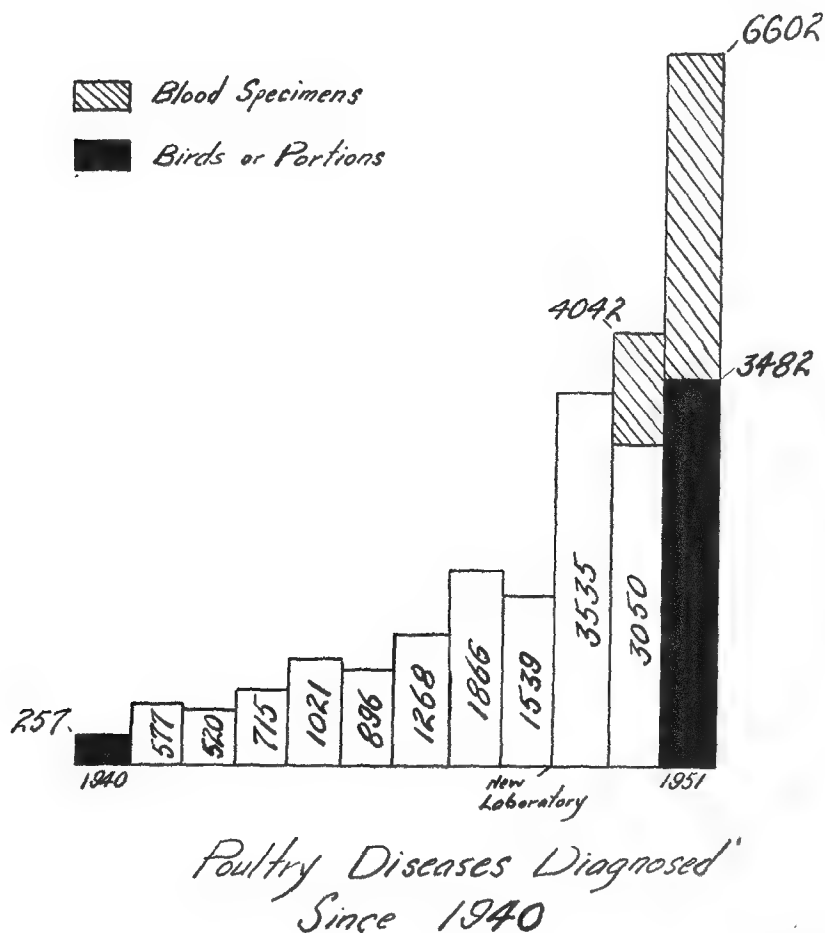
The accurate and rapid diagnosis of poultry disease is a forward policy and can save or prevent the loss of many thousands of dollars to the poultry industry. In poultry production, where the margin of profit is small, disease is of the utmost importance and can mean the loss of all profit and in many cases losses of considerable capital expenditure.

The work of the Poultry Diseases Section, under the direction of Dr. C. H. Bigland, is devoted mainly to the diagnosis of poultry diseases and recommendations as to the control of the disease diagnosed. Specimens consist of live or dead birds, poultry portions, eggs, poultry blood samples, and poultry feed and water samples.

The number of specimens this section has been called upon to handle has been increasing yearly. The year 1951 followed this increased trend. The actual number of sick and dead birds, or portions, reached 3,482, an increase of 14.1% over the 1950 figure of 3,050. The number of poultry blood samples also increased greatly to 3,120, an increase of more than 300% over the 1950 figure of 992. The increase in blood samples handled this year is primarily due to the Newcastle disease survey. The number of consignments of sick and dead birds also showed an increase of 2% to 1,343.

This increase in the number of people sending in specimens, and the increase in the number of sick birds submitted, does not necessarily mean that there is more illness among the poultry population of Alberta. Rather, it indicates a greater appreciation of the value of accurate diagnosis of poultry diseases.

The following graph illustrates the increasing number of poultry specimens examined by the Alberta Veterinary Laboratory since its inception in 1940, eleven years ago.



The larger volume of specimens voluntarily submitted would appear to indicate general approval and appreciation of the services offered. This appreciation took a tangible form in the receipt of forty-four letters expressing thanks for services rendered.

It may be noted that the greatest increase in volume took place in 1949, when a full-time Veterinarian was placed on Poultry disease work with the improved facilities of the new Alberta Veterinary Laboratory.

Approximately one hundred primary disease conditions were diagnosed in the specimens received in 1951. As a correct diagnosis is the solid foundation for satisfactory treatment, every effort is put forward to ensure the accuracy of each diagnosis. This entails not only careful postmortem examination of each specimen but includes bacteriological, parasitological, serological, micro-pathological, fungus and chemical studies.

Newcastle Disease

Newcastle Disease was first diagnosed in Alberta in 1950 from specimens submitted to the Alberta Veterinary Laboratory. In that year live Newcastle virus was isolated from six Alberta flocks, while evidence of past infection was found in five other flocks by blood tests. The majority of these cases involved young pullets and cockerels.

In 1951, sixty-three flocks were destroyed by the Federal Health of Animals Division because of Newcastle Disease, mostly involving chicks from one to three weeks of age. Five of these flocks were in the Fort St. John area of British Columbia, but were incorporated in the Alberta report as their origin appeared to be the same as the majority of Alberta outbreaks.

Although the Alberta Veterinary Laboratory is not equipped for virus examination, many of the above specimens passed through this laboratory for post-mortem and preparation of specimens for shipment to the Animal Disease Research Institute at Hull, Quebec. Of the above flocks condemned, specimens from at least thirty-three of these were prepared by this laboratory.

This laboratory also assisted in the diagnosis of a case of Newcastle Disease involving a human in Alberta, one of the few cases recorded in humans in which infection took place outside of a laboratory.

Newcastle Disease Survey

In an effort to find the extent of past Newcastle infection in Alberta, a Newcastle Disease survey was started in the Fall of 1950. This survey was continued in 1951. Representative blood samples were collected by the Poultry Branch and Veterinary Services Branch from flocks throughout the province. Preparation of serum from these specimens and packing and shipping to the Animal Disease Research Institute at Hull, Quebec, was handled by this laboratory.

4,856 blood samples were handled, representing 308 flocks, containing 50,000 birds, approximately 1% of the Alberta poultry population. Only one flock gave a suspicious reading to the test; the remainder of the flocks were negative for evidence of past Newcastle infection.

Avian Tuberculosis

The educational campaign on Avian tuberculosis was continued through 1951 to acquaint poultrymen, farmers and hog raisers on the control of this disease, as it involves chickens, turkeys and hogs.

Avian tuberculosis was diagnosed in 191 specimens in 1951, the same number as last year. This again places this disease at the top of the poultry disease table, emphasizing that Avian tuberculosis is still a major disease problem in Alberta, in fact, the major bacterial killer of poultry diagnosed at this laboratory. Avian tuberculosis was diagnosed mainly from chickens, with a smaller number of turkeys involved. This condition was also found in a goose and several peacocks.

It is hoped that the large number of pamphlets distributed, the radio talks and other forms of education about Avian tuberculosis, are responsible for the large number of specimens of this condition submitted for accurate diagnosis.

Pullorum Disease

Salmonella pullorum was isolated from 151 chicks, turkey poults, adult fowl and pheasants in 1951. Cultures from each pullorum flock were submitted to the Ontario Agricultural College for typing. This procedure was requested by the Federal Pullorum Conference.

Out of 46 cultures of *Salmonella pullorum* submitted 34 were Standard, 7 Intermediate, and 5 Variant. The Intermediate group indicates that some colonies possess the XII3 or Standard antigens, while others from the same culture carry the XII2 or Variant antigens.

The wholeblood pullorum testing of birds producing hatching eggs by the Poultry Branch is highly instrumental in the control of this disease in Alberta. The pheasants mentioned above were hatched from eggs imported from Iowa, U.S.A.

Salmonellosis (Paratyphoid Infection)

289 chicks, turkey poults and goslings were found to be suffering from *Salmonella* infections other than *Salmonella pullorum* and *Salmonella gallinarum* at this laboratory in 1951. Infection with this group of organisms can cause a high death rate among turkey poults, chicks and goslings. Because of the fact that many outbreaks of food poisoning and Enteritis in humans has been traced to infection with various types of *Salmonella* organisms, we submitted representative cultures to the Provincial Public Health Laboratory for accurate serological identification.

The following table gives the number and types identified, many of the same types have also been isolated from human infections.

SALMONELLA TABLE		
Type		Number
<i>Salmonella oranienburg</i>		24
<i>Salmonella bareilly</i>		4
<i>Salmonella typhimurium</i>		17
<i>Salmonella kentucky</i>		1
<i>Salmonella bredeney</i>		1
TOTAL		47
Not typed		1
		48

Conditions New to Alberta

Several diseases were diagnosed through this laboratory that have not been reported previously in Alberta.

Infectious Bronchitis

Evidence of this condition was found on four premises, three of which appeared to be involving chicks from the same source.

Chronic Respiratory Disease

The virus of this condition was isolated from one premises.

Both of the above diseases are caused by viruses and could cause considerable damage to the poultry industry. If they became widespread in Alberta. A survey to ascertain the past presence of Infectious Bronchitis or Newcastle Disease is proposed for 1952.

Ergot Poisoning

This condition appears rarely in birds but specimens were found on one premises.

Microscopic Tapeworm

Infestation with this parasite, *Davina proglottina*, was found causing deaths of birds in one chicken flock. This appears to be the first time this parasite has been recorded in Alberta.

Hatchery Short Course

As hatcheries are a focal point in modern poultry production, disease control and sanitation in these establishments is of the utmost importance. If infectious diseases gained entrance into one or more hatcheries, infection could be spread far and wide throughout the province with great rapidity and disastrous results. The owners and operators of hatcheries are cognizant of this and are anxious for information to assist them in keeping any such disease condition out of their plants. These men, too, are in constant touch with the rest of the poultry industry and beneficial information received by them is passed on to others.

With these points in mind, for the second year, a short course in hatchery sanitation and disease control was held for the instruction and information of Alberta hatcherymen. The course was held for two days in November at the Moose Hall in Edmonton and was very well attended. The majority of hatchery operators in Alberta were represented, with interested persons from outside the province.

The speakers on poultry diseases, prevention and control, and allied topics were: Drs. Ballantyne, W. Moynihan, Bigland and Clendenan; Messrs. Higginson and Dawes. The short course was opened by Mr. O. S. Longman, Deputy Minister of Agriculture.

The hatcherymen were so appreciative of the information received that they requested the course be made an annual event and that hatchery egg suppliers be also invited to attend.

Radio Talks and Addresses

Several radio talks and addresses were given during 1951 on Poultry Diseases and selected subjects. Addresses were given to the Poultry Industries Council, Hatching Egg Shippers Association and Turkey Breeders Association. Dr. Bigland was also a member

of the Poultry Health Fact Finding Committee at the Western Hatcherymen's Association Convention in Saskatoon.

Scientific Articles

Drs. Ballantyne and Bigland submitted two articles on poultry disease, which were published in the Canadian Journal of Comparative Medicine in 1951. The titles were "Newcastle Disease Survey in Alberta" and "Avian Tuberculosis Control in Alberta."

Projects Other Than Poultry Diagnosis

Accurate diagnosis of poultry specimens and supplying of recommendations for poultry disease control is the main work of this section. Through the course of this work many conditions and problems are encountered wherein research for further knowledge and techniques is sorely needed. Although little time can be devoted to such research, we have attempted to further the knowledge of poultry diseases by submitting specimens to research laboratories for their consideration. These consisted of *Salmonella pullorum* cultures, *Pasteurella multocida* cultures, *Listeria monocytogenes* cultures, several parasite specimens and specimens for virus work. Individual disease statistics have also been supplied to interested parties.

This year, too, we have been assembling cultures of Avian Tuberculosis strains, together with blood serum from positive Avian Tuberculosis affected birds. Attempts will be made to further the knowledge of a whole blood test for Avian Tuberculosis.

Another project deals with the possible penetration of egg shells by organisms of the Paratyphoid group (*Salmonella*). Some interesting results have been found to date. It is hoped these will contribute to the knowledge of the source of infection of many of our outbreaks of Paratyphoid infection, and may point the way to the prevention of some outbreaks.

New drugs, and new uses for known drugs, are constantly being introduced. If suitable cases are submitted, some of these new products are checked for efficiency in order to assist our recommendations in disease control.

SPECIMEN TABLE

Species	Live	Dead	Portions	Total
Chicken	869	1,145	91	2,105
Turkeys	99	705	21	825
Egg Samples			294	294
Feed Samples			55	55
Water Samples			14	14
Buttermilk Samples			1	1
Goose		9	2	11
Pheasant	14	32	13	59
Peahen		1	1	2
Wild Duck	1	2		3
Duck	11	5	2	18
Pigeon	2	1		3
Budgerigars	3	15		18
Grouse		52	2	54
Prairie Chicken		5		5
Partridge		6	1	7
Canaries	1	4		5
Streptomycin			1	1
Miscellaneous			2	2
TOTALS	1,000	1,982	500	3,482
BLOOD SERUM				3,120
GRAND TOTAL				6,602

D. Micropathology Section

This section of the laboratory further increases the efficiency of the diagnostic service to the livestock and poultry industries.

Much of the work is very tedious, involving minute and exacting techniques with tissue sections so that cellular changes, indicative of disease, are evident.

Species	Tissues Sectioned	Species	Tissues Sectioned
Horse	5	Rodent	5
Cattle	83	Mink	302
Swine	49	Poultry	122
Sheep	5		—
Dog	106		681
Cat	4	TOTAL	—

Inclusion godies were demonstrated in mink from 25 different premises.

Sixteen rats were mounted in plastic boxes for the Field Crops Branch to aid in the Rat Control Campaign, so Albertans will know what a rat looks like. These are located in the district agriculturists' offices in various parts of the province.

Seventeen animal and poultry specimens were mounted in plastic boxes for display and educational purposes. These are used extensively at meetings, short courses, etc., by other members of the Branch.

The number of specimens received from veterinarians has increased considerably over those received last year. A particular increase was noted in the number of tumor tissues, as veterinarians perform biopsies in order to determine whether the growths are benign or malignant. This gives them valuable information whether an operation for removal will be successful or not.

The pathology laboratory co-operates with the poultry and animal disease laboratories in order to assist them in making a positive diagnosis. This is especially true with virus diseases, such as distemper in mink, types of tumors to determine whether they are malignant or not, etc.

The following table shows the types of tissue sections examined.

ORIGIN OF TISSUE SECTIONS

TISSUES	CANINE	PORCINE	EQUINE	BOVINE	OVINE	POULTRY	FUR BEARING ANIMALS	RODENT	TOTALS
Muscle		1		2	2	4			9
Tongue		3		2					5
Eye	1								1
Nervous System ...	14	4		10		16	4		48
Lung	3	9	1	21		8	5		47
Kidney	9	5	2	10	2	21	19	2	76
Liver	17	12		10		20	12	2	73
Spleen.....	4	4		5		8	7	1	29
Intestine.....	2	2		1		6			11
Stomach		1		3		1			5
Neoplasm	27	1	2	6		14	2		52
Mammary		1		3					4
Lymph Gland	3			3			2		8
Testicle						3			3
Bladder	25						251		276
Ovary				1		3			4
Reproductive Tract				2					2
Heart		4		1	1	9			15
Epidermis	1	1		1		4			7
Umbilical Cord....				1					1
Endocrine Glands..		1		1		2			4
Pancreas						1			1
Mesentery						2			2
TOTALS	106	49	5	83	5	122	302	5	677

Report of the Fur Farms Branch

J. KOKOLSKY, Fur Farm Supervisor

On April 30th, 1951, Mr. D. R. Fraser resigned from his position as Fur Farm Supervisor. Mr. H. Sutherland assumed the role of Acting Fur Farm Supervisor until August 1st, 1951, when the writer was officially appointed Fur Farm Supervisor for the Province.

The year 1951 was a very successful one in so far as the fur ranch industry was concerned. Pelt prices for short haired furs were the highest since the end of World War II. This factor acted as a stimulus to the industry and resulted in a marked increase of breeding stock sales.

Mink, at the present time, is regarded as the number one fur in fashion popularity. This fact was very much in evidence by the spirited bidding on mink pelts at the end of the year. This leaves the fur market in a very healthy condition and assures the fur farmer that competition for quality pelts will again be keen during the coming year.

Since October there has been considerable movement of breeding stock from Alberta to other provinces in Canada as well as points in the United States. This demand for Alberta mink is a very good indication that the quality of stock raised is equal to, if not better than, that raised anywhere else.

The fox industry has not experienced any change for the better, although an effort is being made to revive the popularity of long haired furs through various forms of advertising. There seems to be considerable buyer resistance for the present at least.

Stock

The following fur-bearing animals are being successfully raised in captivity on Alberta Fur Farms, in order of popularity: mink, chinchilla, fox, marten, fisher, nutria, fitch and rabbits. At the present time, due to its popularity, the number of mink raised far exceeds the total number of all other types of fur bearers.

The chinchilla industry has been very active during 1951. Its activity in recent years has been confined exclusively in promotional work and breeding stock sales. No pelt market as yet has been established.

The Fur Market

The mink pelt market opened up very firm at the close of the previous year. It reached a new high in the January and February sales of 1951. An all-time high was recorded during those two months on some of the finer mutations.

The following is an analysis of top and average prices received on some specific types of mink pelts during the year.

Type	Top Price	Average Price
Sapphire	\$350.00	\$110.00
Snowwhite	95.00	19.00
Pastel	87.00	31.00
Silverblu	45.00	19.00
Breath of Spring Silverblu	60.00	33.00
Standard	40.00	17.00

Breeding Stock

The quality of breeding stock raised on Alberta Fur Ranches has shown consistent improvement. This improvement may be directly attributed to the valuable information gained through regular attendance and participation in Field Days, Pelt Shows and Educational Meetings as well as bulletins.

Feed Supply

While there was an adequate supply of horsemeat during 1951, this supply is rapidly diminishing.. Feed supply houses have developed a very lucrative export business in the commodity by processing of horsemeat for cat and dog foods to supply the American trade. In view of the two above mentioned factors, the price of horsemeat was increased to six cents per lb., and there is evidence that there will be another increase shortly.

Due to this gradual scarcity of horsemeat some thought should be given to possible other sources and substitute feeds. The possibility of whale meat is being investigated, although the total output of this commodity is very limited. Coast fish by-products are also being investigated. In either case, transportation charges may be a determining factor on feasibility of importing such products on an economical basis.

EXTENSION WORK

Field Days

Live Mink Educational Field Days and Field Day Meetings were held at the following points during October and November:

Slave Lake	Oct. 23	Wildwood	Oct. 30
Canyon Creek and Widewater	Oct. 24	Roundhill	Oct. 31
Joussard	Oct. 25	Stettler	Nov. 1
Faust	Oct. 25	Red Deer	Nov. 2
Lac La Biche	Oct. 26	Calgary	Nov. 3
Wabamun	Oct. 29	Medicine Hat	Nov. 5

Despite the adverse weather encountered, the attendance was very good and the quality of animals on display in each instance showed a definite improvement over previous years. The animals were classified and graded as to size, clearness of colour, quality of fur and uniformity. The field day judge, Mr. George Harris of Montreal, pointed out the desirable features in each case by actual example. The evening meetings consisted of lectures from an educational and practical point of view. Such topics as genetics, uniformity, pelt tailoring, demonstrations on method used in vaccinating mink and disease control were capably presented by: J. Kokolsky, Fur Farm Supervisor; Dr. J. O'Donoghue, Extension Veterinarian; D. R. Fraser, Executive Secretary, Alberta Fur Breeders' Association; J. Deltombe, Vice-President, Alberta Fur Breeders' Association; E. B. Gardener, Director, Alberta Fur Breeders' Association; G. Harris, Field Day Judge. Following each lecture, the ranchers participated in a question and answer period.

Fur Farming Short Course

In January and February a series of lectures on Fur Farming were given to students of the Vermilion and Olds Schools of Agriculture. These courses will be again conducted this coming year.

Fur Breeders' Organization

The Alberta Fur Breeders have realized the benefits derived from a sound organization, and as a result Alberta now can boast

of the strongest Fur Breeders' Association in Canada. A representative from the Alberta Association is appointed each year to attend meetings of the Dominion Council of Fur Breeders as well as Farm Fur Advertising Committee. Both of these organizations look after the welfare of the fur ranch industry on a national scale and work in close harmony with affiliated associations in the U.S.A. Since the United States absorb the greatest portion of Canadian ranch raised furs, it is essential that very friendly trade relations between the two countries is maintained.

The Fur Farms Branch gives every assistance and co-operation to the Alberta Fur Breeders' Association in the way of organization of locals, lectures, bulletins, pictures, etc.

Pelt Show

The Annual Pelt Show was held at Edmonton on December 11th and 12th of this year. It was rather unfortunate that icy roads somewhat curtailed the number of entries. The quality of pelts on display, however, was very encouraging and received very favorable comments from the Pelt Show judge, Mr. Wm. Levine of Edmonton. A recommendation at this point be in order—in that the Provincial Association should endeavour to stress the importance of these shows and encourage greater participation.

Radio Talks

Messages pertaining to the Fur Farm Industry were broadcast over C.J.C.A., C.F.R.N., C.B.X., and C.K.U.A. at frequent intervals.

Fashion Show

A Ranch Fur Fashion Show was held at the Macdonald Hotel on November 7th, 1951. This show was sponsored jointly by the Alberta Fur Breeders' Association and the Hudson's Bay Co. Exclusive garments of ranch raised furs in the latest styles were featured. The wide interest created by the two performances was very gratifying indeed and met with approval by a capacity audience.

HEALTH

Several cases of Distemper in the Slave Lake, Lac La Biche, Edmonton and Plamondon areas were reported. Each outbreak was diagnosed by the staff of the Provincial Veterinary Laboratory and brought under control through vaccination of infected herds. The Distemper Vaccine Assistance Plan played a major role in control of outbreaks. The increased membership in the D.V.A.P. this year is indicative of its value to the fur ranch industry.



DEPARTMENT OF AGRICULTURE

FUR FARM STATISTICS FOR YEAR ENDING AUGUST 31st, 1951
NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA, 1950-51

Kind of Animal	Total No. of Animals	Ave. Value per Animal Sept. 1/50	Total Valuation
Fox, Standard	8,480	\$ 20.00	\$ 169,600.00
Fox, Mutation	67	25.00	1,675.00
Fox, Blue and White	248	15.00	3,720.00
Mink, Standard	135,340	20.00	2,706,800.00
Mink, Mutation	53,728	25.00	1,343,200.00
Marten	126	50.00	6,300.00
Chinchilla	912	200.00	182,400.00
Nutria	14	10.00	140.00
Fisher	7	100.00	700.00
Fitch	29	5.00	145.00
	<u>198,951</u>		<u>\$4,414,680.00</u>

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA, 1950-51

Kind of Animal	Total No. of Animals	Ave. Value per Animal Fall 1950	Total Valuation
Fox, Standard	4,793	\$16.00	\$ 76,688.00
Fox, Mutation	10	18.00	180.00
Fox, Blue and White	161	7.00	1,127.00
Mink, Standard	98,533	18.00	1,773,594.00
Mink, Mutation	35,918	25.00	897,950.00
Marten	12	30.00	360.00
Chinchilla			
Nutria	1	35.00	35.00
Fisher	16	2.50	40.00
Fitch			
	<u>139,444</u>		<u>\$2,749,974.00</u>

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA, 1950-51

Kind of Animal	Total No. of Animals	Ave. Value per Animal	Total Valuation
Fox, Standard	\$	\$	\$
Fox, Mutation			
Fox, Blue and White			
Mink, Standard	121	50.00	6,050.00
Mink, Mutation	35	100.00	3,500.00
Marten	25	100.00	2,500.00
Chinchilla	320	200.00	64,000.00
Nutria			
Fisher			
Fitch			
	<u>501</u>		<u>\$ 76,050.00</u>

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA, 1950-51

Kind of Animal	Total No. of Animals	Ave. Value per Animal Dec. 31/50	Total Valuation
Fox, Standard	3,687	\$ 20.00	\$ 73,740.00
Fox, Mutation	57	25.00	1,425.00
Fox, Blue and White	87	15.00	1,305.00
Mink, Standard	36,686	20.00	733,720.00
Mink, Mutation	17,775	25.00	444,375.00
Marten	89	50.00	4,450.00
Chinchilla	592	200.00	118,400.00
Nutria	14	10.00	140.00
Fisher	6	100.00	600.00
Fitch	13	5.00	65.00
	<u>59,006</u>		<u>\$1,378,220.00</u>

FUR FARM LICENSES, 1950-51 SEASON

Fox	47	Nutria	3
Fox and Mink	51	Fitch and Mink	3
Mink	873	Fitch, Nutria and Mink	1
Mink, Marten and Fox	1	Fisher and Mink	1
Marten	2		
Marten and Mink	3		
Chinchilla	49		
			<u>1,034</u>

Report of the Apiculture Branch

W. G. LeMAISTRE, Provincial Apiarist
J. W. Edmunds, Supervisor, Apiary Inspection

A decline of 6% in total honey production for 1951 was observed. This occurred in spite of the fact that the yield per colony was 118 pounds, which is 12 pounds better than average for the last five years.

This decline in production results from a decrease in the number of beekeepers by 30% and a decrease in the number of hives operated by 22%. The present returns from the sale of honey and beeswax are not sufficient, in comparison with other forms of employment, to encourage production. A few beekeepers are deriving revenue from using their bees as pollinators of seed crops. It has been demonstrated that increased seed yields of alsike, altaswede, red clover and sweet clover can be attributed to the activities of honey bees. Some growers of these crops have paid the beekeeper to place hives advantageously for this purpose. In certain cases where this has been done both the growers and the beekeeper have derived adequate revenue for the extra work involved. It is possible that if such a practice becomes common the beekeeper would receive an adequate income. It may be necessary, in order that seed yields remain adequate, for seed growers to do this.

General

The majority of the package bees were brought in by truck from California. They are usually in better condition on arrival when moved this way; but the determining factor was the increase in railway express charges amounting to about 15% of the total cost of the bees.

The average laid down cost of bees in Alberta this year was from \$4.50 for two pound packages to \$7.25 for three pound packages, an average of about 10% over last year.

Winter losses were remarkably high—56% of all hives packed. The early onset of cold weather, before the hives were properly packed, is believed to have been the cause.

The following were prize winners at national honey shows during the year: A. C. Bradley, Athabasca, Alta.; J. M. Cooper, Edmonton; L. Regamey, North Edmonton; K. R. Taylor, Grande Prairie.

There was a considerably increased demand for grade determination on honey samples, particularly respecting moisture content. Out of 319 samples tested for moisture, only 46% graded number 1 (less than 17.8% moisture). The colour and quality were otherwise good.

Regulations respecting the grading of honey under the Alberta Livestock and Livestock Products Act have been prepared. These regulations have been drafted in accordance with the requirements for interprovincial and export shipments; also to conform to regulations either proposed or in effect in other provinces.

Season

Spring weather at the time packages were being placed in hives was erratic, snow and cold interspaced with warm weather. On the whole, packages were able to build up adequately. More artificial feeding was required than normal.

A dry early summer period brought on an abundance of clover bloom from which the bees commenced gathering surplus nectar. Soon it began to rain. There were, besides considerably rainy spells, fourteen thunderstorms in twelve days. This wet weather was detrimental to honey storage in two ways. It interfered with bee flight and resulted in thin honey. Abundant plant growth extended the season and a somewhat better than average yield was finally obtained in most districts. The honey had a higher water content than for many years.

Marketing

Market conditions remained fairly stable for honey. The overall Canadian crop was about normal. There was no appreciable carryover from the previous year. Some price cutting was caused in eastern Canada by an unusually large crop in Ontario. This did not affect markets in the west to any great extent, where virtually all Alberta honey is sold.

The price of honey appears to be below that necessary for the maintenance of a healthy industry. Beekeepers are really having difficulty paying operating expenses.

Technical assistance is given marketing groups concerning problems in packing honey.

Crop reports are prepared and published in co-operation with the Federal Department of Apiculture every two weeks in summer.

Extension

Information on beekeeping is distributed through press notices, radio talks, bulletins, correspondence, moving pictures, and circulars. There were 25 lectures and field demonstrations given in the year.

Beekeepers Organizations

The Provincial Apiarist is secretary of the Alberta Beekeepers' Association. This organization is concerned with the general welfare of the industry.

Disease Control

Thirteen inspectors were appointed under the Bee Diseases Act. June and July are periods of concentrated inspection normally; however, this year weather conditions prevented some inspectors from carrying out their usual amount of inspection, while others were able to do more.

	1950	1951
No. of Colonies Inspected	8,235	10,452
No. of Apiaries Inspected	1,092	851
No. of Colonies Diseased (AFB) . .	1,108	865
Diseased Hives, % of Total	2.4	2.3

The disease situation has improved slightly. The percentage of diseased colonies has decreased by .1%. In 1950 inspections covered 16.4% of the total number of colonies, whereas in 1951 this was increased to 27.4%.

This Branch maintains a diagnostic service. Samples of suspected disease may be sent in for analysis. The sender is informed of the results and recommended treatment in cases of diseased colonies.

Samples of American foulbrood	22
Samples of European foulbrood	14
No disease	19

The operation of two wax melting units for salvaging wax from diseased equipment was supervised by this Branch. In addition to encouraging beekeepers to dispose of diseased equipment these units have salvaged over \$7,000.00 worth of wax that otherwise would have been burned.

The amount of diseased equipment, which is a serious source of infection, has been decreased considerably — 6,285 infected supers have been sterilized.

In addition to the diseased equipment melted, a considerable amount of unused equipment has been sterilized. It is difficult to determine whether or not stored equipment is contaminated. Melting this equipment removes this potential source of infection.

Beekeepers are required to register annually with this Branch for the purpose of controlling disease and recording beekeeping statistics.

	1950	1951
No. of Beekeepers registered	3,322	1,846
No. of Beekeepers not registered (est.)	610	900
No. of Hives registered	39,864	26,000
No. of Hives not registered (est.)	10,184	12,100

Investigations

Pollination

Pollination tests were carried out:

- (1) To satisfy enquiries regarding effectiveness of bees as pollinators of alfalfa in Alberta;
- (2) To determine the best method of using bees for effective pollination, e.g., (a) time of placing colonies in the field, (b) distribution of colonies, (c) density of bee population necessary.

Tests were conducted in the Sangudo district on two fields, one containing 10 acres, the other 30 acres. A check field was chosen in the vicinity of each test field.

Colonies of bees were placed in the fields shortly after alfalfa had commenced blooming (about the end of June), at the rate of two colonies per acre. Colonies of normal strength were located at regular intervals, in a line down the centre of the field, parallel to the longest sides.

On September 8th, square yard samples were cut in two lines diagonally across the fields. These samples were bagged, threshed and the yield per acre calculated. Nine samples were taken from one field and twenty from the other. Five samples were used from each check field.

No definite conclusions could be drawn from the results. Owing to unsuitable weather, seed sets in the Sangudo area were poor. No commercial crop was harvested on either the test fields or check fields.

It was observed that in the immediate vicinity of the hives seed yields were somewhat higher than at the edges of the field. Natural

nesting sites of wild bees were more plentiful at the edges of the fields and should have given better seed yields. This was not true. Since the whole area was much below normal no satisfactory conclusions could be made.

Wintering

Observations were made on 250 colonies of bees packed in the Sangudo area, December 11, 1950, to determine results of late packing.

Standard packing methods were used. All colonies had been checked in September and given food supplies where necessary.

The colonies were unpacked in the spring of 1951, and it was found 175 colonies had not survived. This represented a loss of 70% of the total number packed.

The relevant weather report shows that unusually adverse weather conditions prevailed during October and November. This probably decreased the vitality of the bees. The disturbance caused by packing further decreased their vitality or broke up the cluster so that they were unable to survive the winter.

TEMPERATURES

	Maximum		Minimum		Mean	
	1950 Normal		1950 Normal		1950 Normal	
October	63	51	17	17	36	41
November	55	33	-20	15.7	13	24

It was concluded that in general colonies must be packed as early in the fall as possible, either in September or early October. Colonies unprotected during severe fall weather are not likely to survive the winter. They should not be disturbed after they have formed the winter cluster. If they cannot be packed before the dates recommended, colonies should be killed and packages purchased in the spring.

Honey Flow Data:

Data showing gains and losses of weight by colonies maintained on scales is accumulated. The two graphs below were prepared by applying a five day moving average over a six year period for the Athabasca district and over an eight year period for Edmonton.

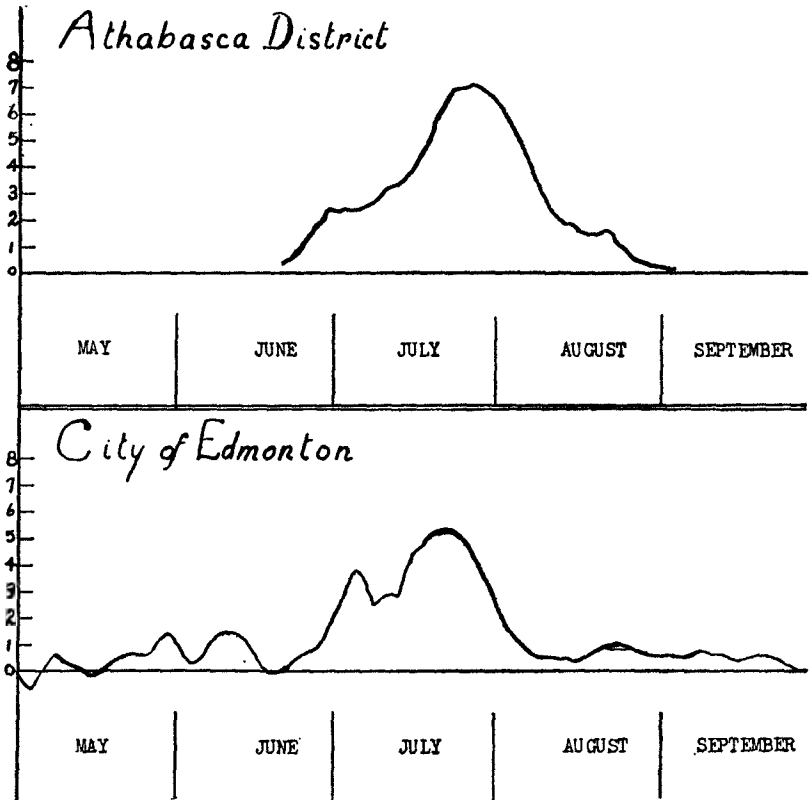
The major honey flow period is seen to begin earlier than is generally supposed by operators in the districts concerned.

Statistics

	Honey		Beeswax	
	1950	1951	1950	1951
Total production, '000 lbs.	4,851	4,500	64	58
Average net price, per lb.	.10	.11	.40	.50
Value in '000 dollars	485	495	26	29
	1950	1951	% Change	
Number of beekeepers	3,840	2,720	-30	
Number of Hives	49,000	38,100	-22	
Number of hives, per bookkeeper	12	14	+19	

Staff Changes

J. W. Edmunds was appointed supervisor of Apiary Inspection to replace D. R. Robertson, who resigned after rendering useful service.



Honey flows at Athabasca and Edmonton, 6 and 8 years averages respectively

Report of Schools of Agriculture Branch

R. M. PUTNAM, Superintendent, Schools of Agriculture

C. E. Yauch, Principal, Olds School of Agriculture

N. N. Bentley, Principal, Vermilion School of Agriculture

J. E. Hawker, Principal, Fairview School of Agriculture

General

The Schools of Agriculture and Home Economics at Olds and Vermilion operated as usual during 1951 and the new school at Fairview was opened in October.

There were 190 diplomas presented at graduation exercises in April, 1951, to students who had successfully completed their course in agriculture or home economics.

	Olds	Vermilion	Total
Diplomas in Agriculture	71	60	131
Diplomas in Home Economics	29	30	59
Total	100	90	190

The Schools of Agriculture and Home Economics were not excepted from the results of the climatic extremes of the year 1951. Due to the wet, cold fall the opening of the schools at Olds and Vermilion was postponed from October 23rd to October 30th. The School at Fairview opened as scheduled on October 23rd.

Work on course material was continued during the summer of 1951. When the schools opened in October a detailed outline for practically all courses was completed.

Members of the staffs of the schools assisted in the preparation of material on agriculture for the course in General Science in the Junior High Schools of the Province. This material was consolidated by the Department of Education in a bulletin called "The Story of the Soil".

The calendar of the Schools of Agriculture and Home Economics was completely revised and republished. A smaller leaflet was also prepared and widely distributed.

Among the staff changes was the transfer and promotion of J. E. Hawker, instructor in Horticulture and Botany at the Vermilion School of Agriculture, to the position of Principal of the new School of Agriculture and Home Economics at Fairview. Mr. Hawker assumed his new duties on April 1st.

Fairview School of Agriculture and Home Economics

Construction of the new School of Agriculture and Home Economics at Fairview has completed early in the year. Furnishing and equipping of the institution was begun in 1950 and was quite well completed by September, 1951.

The principal and a few staff members arrived in May to begin the task of preparing to teach in October. It was decided that the first year course in Agriculture and Home Economics only would be offered in 1951-52. The principal visited many districts during the summer to explain the function and describe the courses

offered to prospective students and their parents. The interest displayed in this institution by people throughout the Peace River district was most encouraging. By the opening date, October 23rd, 51 students had enrolled. A larger number would have attended had not a late harvest prevented some students from leaving home.

The official opening of the new School took place on November 6th. The Honourable E. C. Manning, Premier of Alberta, and the Honourable D. A. Ure, Minister of Agriculture, officiated at the opening. A number of other officials were also present, as indicated by the program which appears below.

OFFICIAL OPENING

FAIRVIEW SCHOOL OF AGRICULTURE AND HOME ECONOMICS

2:00 p.m., Tuesday, November 6th, 1951

PROGRAMME

Chairman: R. M. Putnam, Superintendent, Schools of Agriculture
O Canada

Introduction of Guests

Address: "The Alberta Schools of Agriculture"

Honourable D. A. Ure, Minister of Agriculture

Salutatory Addresses:

Mayor Peterson, Town of Fairview

Mr. O. S. Longman, Deputy Minister of Agriculture

Dean A. G. McCalla, University of Alberta

Mr. A. B. Evenson, Associate Director of Curriculum

Mr. W. F. Gilliland, M.L.A., Berwyn

Mr. R. C. Marler, President, Alberta Federation of Agriculture

Mrs. Lorne Harris, Director, Alberta Women's Institute, Berwyn

Mr. W. A. Hemstock, President, Associated Boards of Trade and Agriculture

Inaugural Address: Honourable E. C. Manning

Premier, Province of Alberta

Response: Mr. J. E. Hawker, Principal, Fairview School of Agriculture

God Save the King

More than 600 people were assembled in the school auditorium for the opening ceremony, and many took advantage of the opportunity to inspect the institution. The press and radio in the Peace River district and elsewhere in the Province and in Western Canada gave wide publicity to this event, all of which was much appreciated.

During the season a start was made in planting the grounds and work on levelling and building roads was well advanced.

A herd of Holstein cattle and a herd of Yorkshire swine were moved from Olds. A team of horses was also added to the live stock.

Summer Program

The number of events held during the summer months was longer than in previous years. While the main events were held during the month of July, many groups came to the schools during the other summer months. Several gatherings were held at Fairview even before the facilities and equipment were fully installed and in operation.

The staff members were occupied mainly in junior club work and with the Extension Service during the summer months. Somewhat better arrangements were made to employ the staff than in previous years.

Maintenance

The maintenance and caretaking of the schools at Olds and Vermilion was transferred from the Department of Public Works to the Department of Agriculture on April 1, 1951. This move involved the transfer of about twenty maintenance employees, together with responsibility for all maintenance work. The purchase of new equipment and construction of new buildings remained with the Department of Public Works.

School Farms

Generally, the crops at the three schools were large and satisfactory. At Olds, however, the early arrival of winter prevented threshing the crop, necessitating purchase of barley and straw.

In early October, 11 head of Holstein cows, 15 York shire pigs and 2 horses were shipped from Olds to Fairview.

Three additional gilts of the Large English White breed were purchased for the herd at Olds.

Owing to the transfer of 8 cows from Olds to Fairview it was necessary to continue purchasing milk for dormitory use at Olds.

The 1951-52 Term

The delayed opening of Olds and Vermilion from October 23rd to October 30th was due to late harvesting conditions. Fairview opened as scheduled, October 23rd.

Enrolment for the 1951-52 term at Olds, Vermilion and Fairview was 385, distributed as follows:

	Olds	Vermilion	Fairview	Total
Agriculture:				
First Year	54	61	36	151
Second Year	32	41		73
Two-in-One	33	19		52
	119	121	36	276
Home Economics:				
First Year	27	21	15	63
Second Year	12	11		23
Two-in-One	12	11		23
	51	43	15	109
TOTALS	170	164	51	385

The average age of the students was slightly lower than in 1951.

The number of students enrolling in the agriculture course at Olds and Vermilion in the fall of 1951 was almost as many as could be accommodated. At Fairview a few more students for the first year in agriculture could have been accepted. Had the fall been a normal one it is almost certain that the facilities would have been taxed to the limit.

In so far as students in the home economics course is concerned, a few more could have been accepted at Olds and Fairview and accommodation for twenty additional girls was available at Vermilion. The weather was, of course, largely responsible for restricting the number who attended.

Historical Statement of Attendance at Schools of Agriculture

Fairview was the seventh School of Agriculture and Home Economics constructed and operated in Alberta. In 1913 Schools of Agriculture were opened at Claresholm, Olds and Vermilion and these were followed in 1920 by three additional institutions at

Gleichen, Raymond and Youngstown. Fairview was opened in 1951. It is now a matter of history that the schools at Gleichen and Youngstown were closed in 1922 and Claresholm and Raymond operated until 1931. Olds has operated continuously, but Vermilion was closed on several occasions between 1913 and 1950 for periods of from one to four years.

The following table has been prepared as an historical record of the operation of the schools from 1913 to 1951. Most of the figures used in this statement were obtained from the official records of the Department of Agriculture, but in some cases they were secured from unofficial sources. The most significant statistic is the number of graduates, since the attendance figure in most years includes first year and second year students and is thus a partial duplication.

Board of Agricultural Education

The annual meeting of the Board of Agricultural Education was held on June 22nd. The Board was presented with a report of the operations of the schools, and discussed several matters pertinent to agricultural education in Alberta. At the conclusion of its discussions, the Board requested the chairman to appoint committees to study the integration of agricultural education as between the composite high schools and Schools of Agriculture, the problem of a decreasing number of girls in attendance at the Schools of Agriculture, and the course in Science as given in the Schools of Agriculture.

Appreciation

The Schools of Agriculture Branch desires to express its appreciation to those organizations and individuals who by thought, word and deed supported the work of the schools. The donors of scholarships and prizes might be mentioned particularly, as well as those firms who loan equipment for classroom purposes. The Alumni Associations are likewise remembered for their continued support of the Schools of Agriculture and Home Economics.

OLDS SCHOOL OF AGRICULTURE

The 1950-51 term of the Olds School of Agriculture closed on April 4, 1951, with the presentation of 29 diplomas in Home Economics and 66 in Agriculture. Five students in Agriculture were permitted to write supplementals and were later granted diplomas. Honourable Ivan Casey, Minister of Education, delivered the address to the graduating class, and Mr. R. M. Putnam, Superintendent of Schools of Agriculture, presented the prizes. Mr. F. Niddrie, M.L.A., was guest speaker at the banquet. Mr. Don Robertson of Carstairs was valedictorian.

The average age of the students in Agriculture was close to eighteen with the Home Economics students a year younger. Fifty-five per cent of the students were former club members.

Special Lectures and Visitors

Short courses were given in irrigation, animal sanitation and fur farming to the regular students in the two-in-one and second year classes by the following: C. J. McAndrews, Irrigation Specialist; Dr. J. D. O'Donoghue, Veterinary Services Branch; D. R. Fraser, Fur Farm Supervisor.

ATTENDANCE AT SCHOOLS OF AGRICULTURE, 1913-1951

NOTE: Attendance figures for each year are those for class beginning that fall, e.g., 1951 attendance is the 1951-52 class. Graduation figures for each year are graduates of the spring of that year, e.g., 1951 graduates are graduates of the 1950-51 term.

Year	Olds		Vermilion		Claresholm		Raymond		Gleichen		Youngstown		Fairview	
	Attend- ance	Gradu- ation	Attend- ance	Gradu- ation	Attend- ance	Gradu- ation	Attend- ance	Gradu- ation	Attend- ance	Gradu- ation	Attend- ance	Gradu- ation	Attend- ance	Gradu- ation
1913	104	none	55	none	86	none								
1914	119	none	55	none	105	none								
1915	165	30	58	23	117	35								
1916	134	25	71	18	100	21								
1917	147	21	75	23	107	22								
1918	flu	37	flu	24	flu	13								
1919	flu	33	flu	24	flu	13								
1920	163	33	35	none	69	7	102	none	49	none	40	none		
1921	114	57	39	none	50	24	56	none	31	none	41	none		
1922	149	41	55	14	74	17	55	12	closed	10	closed	11		
1923	132	56	*	25	70	28	closed	10						
1924	191	58	closed	none	83	23	closed							
1925	194	44	92	none	97	19	closed							
1926	210	60	130	none	97	27	104	none						
1927	274	70	150	31	97	20	84	36						
1928	243	97	176	35	78	23	64	37						
1929	227	80	177	45	61	21	65	21						
1930	145	62	120	45	41	22	79	21						
1931	134	51	100	44	closed	17	closed							
1932	132	44	98	49										
1933	136	50	closed	37										
1934	185	74	165	none										
1935	206	69	169	39										
1936	188	74	141	65										
1937	192	80	164	59										
1938	216	69	149	62										
1939	171	121	135	62										
1940	168	73	110	82										
1941	178	75	closed	54										
1942	164	77												
1943	200	72												
1944	182	74												
1945	204	84	120											
1946	193	92	214											
1947	181	124	175	112										
1948	198	102	193	86										
1949	190	103	189	88										
1950	182	100	185	92										
1951	170	100	164	90									51	
	6,660	2,479	3,595	1,305	1,403	349	639	166	80	10	81	11	51	
Total Attendance														12,673
Total Graduates														4,320

*Special classes.

Representatives of the Alberta Department of Agriculture and other government and commercial agencies who spoke to the students during the term included: J. E. Birdsall, Field Crops Branch; E. C. Bealing of Terrill's, Calgary; F. H. Newcombe, Mr. Petersen of John Deere, Dr. Ballantyne, W. G. leMaistre, F. J. Higginson, A. M. Wilson, Miss J. Lewis, D. H. McCallum, G. R. Sterling, Miss M. Fraser, and W. Mead.

The school was also visited during the year by: Mr. Sands of the Canadian Weekly Newspapers Organization; C. E. Goods, Agriculture and Homemaking School, Brandon; a party of two on an agricultural mission from Pakistan; a party of six on an agricultural mission from India; Floyd Griesbach, Farm Radio Forum.

Special Events During the Term

January 3—Lectures resumed.

February 9—O.S.A. group visited the Vermilion School of Agriculture.

March 28—Combined Little Royal and Achievement Day.

April 4—Graduation Day.

October 30—Registration day postponed from October 23rd.

November 23—O.S.A. Alumni Reunion.

December 21—Christmas holidays started.

Scholarships

At the closing exercises on April 4, 1951, the following scholarship winners were announced:

In Home Economics:

Evelyn Schwenk: Alberta Women's Institute scholarship.

Betty Storch: O.S.A. Alumni Association scholarship.

In Agriculture:

Harvey Neufeld: Imperial Oil scholarship.

Richard White: O.S.A. Alumni Association scholarship.

Don Blain: Alberta Hatching Egg Producers scholarship.

John Sinnot: The United Farmers of Alberta Robert Gardiner Memorial scholarship.

Villy Kaljuve: Alberta Seed Growers Co-operative scholarship.

Peter Johnson: Surplus Wheat Board Money Trust scholarship to University of Alberta (Walter Ilnicki was named alternate).

Summer Programs and Staff Work

During the summer months when classes were not in session the staff members were engaged in various duties connected with the school and with other branches of the Department.

M. W. Malyon was in charge of the grounds and poultry. W. C. Kirk was employed by the Extension Branch until he left the service in August. H. W. Sutherland was transferred to the Fur Farm Branch for most of the summer. G. Hughes returned to his farm at Vegreville. V. E. Molsberry was in charge of the plots, and did some weed survey work for the Field Crops Branch. R. H. Cooper judged at a number of the junior live stock fairs and assisted with club activities. F. C. Jorgenson assisted with the various short courses and acted as principal during the holiday period. H. J. Armstrong was attached to the Field Crops Branch in connection with pest control.

The home economics staff for the most part assisted the District Home Economics with short courses. Miss M. McKim was district health nurse at Foremost for the summer.

Summer Events

The summer events which have been held at this school for a number of years were conducted again in 1951. Most of these events are organized in connection with the Department's programme for rural young people.

This year the facilities of the school were utilized for an entirely new type of course, civil defence schools. Two three-week civil defence schools were held, the first commencing on September 4th and the second on September 24th. The number of "students" was 38 and 50 respectively. The schools were conducted by the civil defence organization, of which Honourable C. E. Gerhart is the Minister in charge. The courses consisted of lectures, demonstrations and actual participation of the students in various forms of civil defence work.

Grounds and Buildings

On April 1, 1951, the Department of Agriculture assumed responsibility for all maintenance work at the school.

During the summer the third floor of the boys' dormitory was renovated and decorated. Material was on hand to repair two floors of the girls' dormitory, but the work was not started during the year. A new floor was put down in the gymnasium with a good subfloor of shiplap.

A large capacity lift pump was installed at the back of the dormitory to lift the sewage from the dormitory into the town sewage system during the late summer. A propane range was installed in the dormitory kitchen in October and a special propane burner was placed in the bake oven. One of the refrigeration units in the dormitory was replaced early in January with a new Kelvinator unit. The hot water tanks in the dormitory and main buildings were rearranged so that they could be heated by the central heat system. A new ceiling and roof was placed on the root cellar.

The Farm

Spring seeding was rather late. Above normal precipitation produced a heavy late crop. The crop became lodged and was difficult to cut with the binder. Most of the crop was swathed and just about finished when a heavy snowstorm came in September. Except for 400 bushels of barley threshed in November, the crop is under the snow. The hay crop was good and the pastures were good throughout the year. One hundred tons of hay and 80 tons of silage were put up. The Gehl forage harvester purchased during the summer proved to be a great labour saver.

The live stock are in a good healthy condition. The demand for breeding stock, with the exception of horses, is still very good.

In September, 11 head of Holsteins, 15 Yorkshires and 2 horses were shipped to the School of Agriculture at Fairview.

On March 1, 250 New Hampshire pullet chicks and representatives of a few other breeds of poultry were obtained. They

thrived well during the season, the pullets being placed in the laying house during the late summer.

The Large English White sows shipped from Ontario produced only small litters. The pigs from our own sows by the English board turned out very well, with a high percentage grading "A".

Twelve steers and seven lambs were fed to butcher for the dormitory. All of the live stock and poultry were available for class work during the term.

Staff Changes During the Year

Shortly after the close of the term Miss G. Caverhill, dietitian, and K. G. Fletcher, plotman, resigned. Miss K. O'Callaghan assumed duties as dietitian the latter part of June, but no one was appointed as plotman. W. C. Kirk, instructor in Farm Mechanics, resigned August 1st. His place was taken by K. May, a graduate of the University of British Columbia. George Carter, maintenance foreman and instructor in Woodwork, resigned in July. C. Belanger of Calgary was appointed to this position. Miss N. Mitton of Truro, Nova Scotia, was appointed as instructor in Cooking and Nutrition in place of Miss C. McIntyre, who reached the age of retirement during the year. Miss E. Elders of Manitoba was appointed instructor in Home Management to fill the position vacated by Miss O'Callaghan.

Opening of the 1951-52 Term

The school opening date was postponed one week until October 30 because of very unfavourable harvest weather. More applications were again received during the summer for the course in Agriculture than could be accepted. The unfavourable weather, however, resulted in many cancellations in October and a number who had previously been refused were accepted. We were able by this means to acquire almost the number desired to fill our classes and dormitories. The number of applications for the course in Home Economics again declined.

Final registration was:

	Agriculture	Home Economics
First Year	54	27
Second Year	32	12
Two-in-One	33	12
	119	51

The Staff for the 1951-52 Term

C. E. Yauch, B.Sc., Principal; V. E. Molsberry, B.Sc., Field Crops; M. W. Malyon, B.S.A., Dairying, Poultry, Horticulture; F. C. Jorgenson, English, Mathematics; R. H. Cooper, M.Sc., Animal Husbandry; H. W. Sutherland B.Sc., Science; K. E. May, B.Sc., Farm Mechanics; H. J. Armstrong, Metal Work; C. Belanger, Building Construction; George Hughes, B.Sc., Botany, Physical Education; Helen Moseson, B.H.Ec., Sewing and Clothing; Kathleen O'Callaghan, B.Sc., Dietitian, Laundering; Mrs. F. C. Jorgenson, R.N., Dean of Women and Nurse; Nora Mitton, B.Sc., Nutrition and Cooking; Evelyn Elders, B.Sc., Home Management; Nelson Norton, Accountant and Asst. Dean of Men.

VERMILION SCHOOL OF AGRICULTURE

Guest Speakers

Visitors who inspected the school and addressed the students during the term included: A. M. Wilson, F. H. Newcombe, Miss Joyce Lewis, Dr. E. E. Ballantyne, and Gordon Ross, of the Provincial Department of Agriculture; W. D. Sharpe and K. Fife of the Dominion Income Tax Branch; Miss J. F. Ferguson, R.N., Supervisor of Training of Nurses Aides; D. A. Andrew, Secretary, Canadian Hereford Association; and Chas. Stephens, University Farm, Edmonton.

Social Events

February 3rd—Visit of University Faculty of Agriculture Basketball Team.

February 9th-11th—Visit by delegation of staff and students from O.S.A.

February 24—Play Night.

March 1st—Public Speaking Contest.

March 3rd—U. of A. Field Day and T.C.A. Flight.

March 9th—R.C.A.F. Band Concert.

March 17th—Operetta.

March 28th—"Little Royal".

April 4th—Closing exercises.

The keen interest and support given by the public to all open functions at the school continued to afford considerable satisfaction to members of the staff. Chief among such functions during the spring term was the Little Royal and Achievement Day, at which Jonathan Fox, Lloydminster, was the guest judge and A. M. Wilson, Field Crops Commissioner, represented the Department of Agriculture.

Graduation

At the closing exercises held on April 4th the principal address was delivered by the Rev. Reid E. Vipond of the Metropolitan United Church in Edmonton. Mr. Donald Cameron and Mr. F. H. Newcombe represented the University of Alberta and the Department of Agriculture.

Diplomas of graduation were awarded as follows:

	Agriculture	Home	Economics
Two year course	37		16
Two-in-One course	23		14
	<u>60</u>		<u>30</u>

Winners of scholarships for distinction in various fields were named as follows:

The Alberta Wheat Board Money Trust scholarship tenable at the University of Alberta: Duncan McCue, Bon Accord.

The Alberta Wheat Board Money Trust scholarship tenable in the second year course: David Glen, Violet Grove; Elsie Kupsch, Barrhead.

The Vermilion Board of Trade: Ross Gould, Rosalind.

The Canadian Legion: John D. White, Pibroch.

Craig Brothers, Vermilion—Harvey Hauer, Greenstreet.

The United Grain Growers: Stewart Eyben, Vermilion; Richard D. Clements, Pibroch; Alice Rollof, South Edmonton.

The Alberta Seed Growers' Co-operative: Gustave Stamp, Wembley.

The Alberta Turkey Breeders' Association: Harold Hauer, Greenstreet.

The Alberta Women's Institutes: Mildred Parsons, Boyle.

The U.F.A. Robert Gardiner Memorial: Freda Hansen, Lea Park.

The V.S.A. Alumni Association: Keith Haskins, Edmonton; Barbara Jeffery, Glenevis.

The Westlock Hall Committee: George Sexty, Pibroch.

The Margaret Morrison Memorial: Della Winter, Colinton.

In addition to the scholarships described above, prizes donated by various business firms and organizations to a value in excess of \$500.00 were awarded to students for distinction in various branches of classroom activity.

Winners of the staff medals were Ronald Goeglein, Tofield; Marie Scheidegger, Ohaton; Lorne Underschultz, Fort Saskatchewan; and Eva Briggs, Ohaton.

An active programme of extra-curricular activities was again organized under the Students' Council and supervised by members of the instruction staff.

During the summer and fall two of the students who had been awarded staff medals and who had also been President and Vice-President respectively of the V.S.A. Students' Union, namely, Ronald Goeglein and Marie Scheidegger, were chosen to represent Alberta's Junior Clubs on an official visit to the 4-H Clubs in Montana. The President-elect for the Students' Union in the 1951-52 term, Ross Gould, was also awarded the distinction of being the Alberta representative competing for the T. Eaton Company scholarship at the Toronto Royal. Alice Rollof, who had completed the first year home economics course, was a member of the team of junior club girls who won the Dominion award in the sewing competitions.

The Summer Programme

The series of short courses similar to those held in recent years was the principal feature of the summer programme. These were as follows:

July 3rd to 7th—Alumni Short Course and Reunion.

July 9th to 14th—Junior Club Week.

July 16th to 20th—Farm Women's Week.

July 23rd to 28th—Short Course and Fair Camp.

Each of these courses was well attended. Junior Club Week and the Fair Camp employed facilities at the school to capacity.

Farm Women's Week, offering a special short course in sewing as an alternative to the general programme, attracted a larger attendance than in recent years. Displays of handicrafts prepared by organizations from Vermilion and Lloydminster were exceptionally interesting.

Numerous organizations, particularly junior clubs, continue to centre many of their activities at the School of Agriculture, where its facilities prove exceptionally suitable for meetings, conventions, demonstrations and field days. The following are some of the principal events held in 1951: District Shorthorn Breeders'

meeting, District Hereford Breeders, meeting, Anglican Church picnic, Junior Turkey Club Judging demonstration, Tillage Implement demonstration and Field Day, F.W.U.A. Conference, Agricultural Service Board conference, Junior Farm Club rally, Women's Institutes Constituency conference, Myrnam District Club Field Day, Farmers' picnic, annual meeting Vermilion Horticultural Society, Vegreville, Wainwright and Vermilion Districts Joint Teachers' convention.

Employment of Staff During Summer

In addition to the responsibilities associated with the summer short courses and other events described above, members of the teaching staff engaged in various activities connected with the school or with other Branches of the Department. Six of the men and two of the ladies were available for this work.

R. A. Harvey, as in previous summers, was employed by the Field Crops Branch with headquarters in Edmonton; E. V. Hamula served as an inspector for the Dairy Branch with headquarters in Vermilion; S. W. Pettem was associated with the District Agriculturist's office in Vermilion; S. C. Acheson, D. C. Folk, Miss E. V. Shemansky and Miss E. M. Curran were employed for part of the summer by the Extension Service.

J. E. Hawker, who had served on the Vermilion staff for the past six years, was transferred to the position of principal of the new school at Fairview. Miss L. Engberg and J. T. Lancaster were also transferred to the staff of the new school, and J. L. Kerns was transferred to the District Agriculturist Service. Because replacements for Mr. Hawker and Mr. Kerns were not made until late fall, supervision of the school grounds, the field crops plots and school farm was carried on by the principal throughout the summer.

Buildings and Grounds

Responsibility for the maintenance of the school buildings was transferred from the Department of Public Works to the Department of Agriculture on April 1st. The effect of this major change in the basis of operation was that the maintenance work, including janitor services, operation of utilities and repairs, came under the direct supervision of the principal, with the result that it was possible to effect a much higher degree of co-ordination between the servicing and the use of the buildings and their facilities.

Economies in the use of labour were also effected because it became possible to interchange personnel for work in the buildings or on the grounds as expedient from time to time.

Principal maintenance projects handled: Replacement of the roof on the dormitory; replacement of roofs on two staff residences; Remodelling of heating system and replacement of furnaces in the agronomy and Q.M.S. buildings; replacement of sinks and drains in dormitory with stainless steel material; repair and redecoration of the interior walls throughout a considerable part of the dormitory building.

Capital projects included: Installation of cement foundation to the Q.M.S. building; installation of a basement and foundation as well as utilities to the gas house in preparation for remodelling it into a staff residence.

The School Farm

Greater rainfall during the growing season resulted in the production of very satisfactory yields of all crops and made it possible to establish some reserve of live stock feeds.

Crops harvested were as follows:

	Wheat	Oats	Barley	Hay
Acres	18	58	35	120
Yields	600 bus.	3422 bus.	2360 bus.	194 tons

Farm sales to the school dormitory during 1950 were as follows:

Milk and cream	\$3,488.94
Eggs	594.35
Meat	3,848.52
Total farm sales during the year	amounted to \$19,895.70.

Total farm sales during the year amounted to \$19,895.70.

The 1951-52 Term

Opening of the 1951-52 term for the regular courses was postponed from October 23rd to October 30th due to incomplete state of harvesting operations generally prevalent throughout the area served by the school. However, the onset of winter conditions at the end of October permitted an almost complete enrolment at that time.

Classes were enrolled as follows:

	Agriculture	Home Economics
First Year	61	21
Second Year	41	11
Two-in-One	19	11
	<u>121</u>	<u>43</u>

All fully eligible applicants to these classes were admitted except for the first year course in agriculture in which about ten applications were refused due to limited accommodation in the boys' dormitory. However, the enrolment of girls in all home economics classes was less than capacity by twenty-five. This situation, which has been developing over several years, poses a problem for immediate attention.

Visitors and guest speakers who inspected the school and met the students during the fall term included: Honourable D. A. Ure, Minister; O. S. Longman, Deputy Minister; and Mrs. V. G. Macdonald, all of the Department of Agriculture in Edmonton; Miss Margaret Lang, Dietitian, University Hospital; and Leslie G. Barnard, Canadian author from Montreal.

The school has enjoyed fine support from numerous business firms and organizations who have donated a very considerable quantity of material and equipment for teaching and demonstration purposes. Particular reference in this regard is made to manufacturers and distributors of farm and home equipment, without which our work in farm mechanics and in home management would be considerably handicapped.

Instruction and administrative staff was as follows: N. N. Bentley, Principal, Instructor in Farm Management; E. R. McCrimmon, Dean of Men's Residences, Instructor in Botany and Horticulture; Miss A. Kernalguen, Dean of Women's Residence, Instructress in Home Management, Handicrafts and Laundering; V. T. Janssen, Farm Manager, Instructor in Animal Husbandry; S. C. Acheson, Instructor in Farm Mechanics; D. C. Folk, Instruc-

tor in Farm Buildings; S. W. Pettem, Instructor in Metalwork and Mathematics; L. Blades, Instructor in English and Community Organization, Librarian; T. S. Rackham, Instructor in Field Crops and Physical Training; R. A. Harvey, Instructor in Science; E. V. Hamula, Instructor in Dairying and Poultry Husbandry; Miss E. V. Shemansky, Instructress in Clothing and Sewing; Mrs. M. J. Ferry, Instructress in Cooking and Nutrition; Miss L. Wasiuta, Dietitian, Instructress in Mathematics; Miss S. Komhyr, School Nurse, Instructress in Home Nursing; J. R. Roxburgh, Accountant; Mrs. K. Bell, Secretary; Miss T. J. Toner, Secretary-Librarian.

FAIRVIEW SCHOOL OF AGRICULTURE

Since this is the first report of the Fairview School of Agriculture and Home Economics, it would appear appropriate to record briefly the events which led up to the opening of this institution for classes on October 23rd, 1951.

When the School of Agriculture at Vermilion was reopened in 1945, after having been used for four years by the armed services, the number of students desiring admittance to Olds and Vermilion was much in excess of the number these schools had facilities to handle. The Board of Agricultural Education discussed this problem, and at a meeting of the Board in June, 1946, a committee was named to study the need for an additional School of Agriculture and to suggest a suitable location. It was not until July, 1948, that a final decision was made and the Minister of Agriculture announced that a new School of Agriculture would be built at Fairview as soon as possible. At about the same time negotiations for the purchase of a farm of 320 acres immediately south of the Town of Fairview were completed.

Construction of the new school did not begin until September, 1949, although Mr. Gordon Ogston was appointed to operate the school farm in the spring of that year. By the end of 1950 most of the construction on the new school had been finished and some furniture and equipment was delivered. Throughout the winter of 1950-51, equipment and supplies continued to be assembled, and final construction was completed. On April 1st, 1951, the writer was appointed as principal, and early in May took up residence at the school. During the early summer the staff was assembled, classrooms were made ready for use, and the school was prepared for opening on October 23rd. On November 6th the official opening was held, and the Fairview School of Agriculture and Home Economics came into operation.

The Summer Programme

Owing to the fact that certain facilities were incomplete, short courses comparable to those offered at Olds and Vermilion were not offered at Fairview during 1951. However, the School of Agriculture was able to be of service to a large part of the Peace River area by providing facilities for the following events:

July 8th to 11th—Community Life Conference.

July 17th to 21st—Young Farmers' Week.

Sept. 24th and 25th—North Peace Teachers' Convention.

The Community Life Conference was under the direction of Mr. S. O. Hillerud, Department of Extension, University of Alberta.

About 600 visitors were in attendance at the school during the conference. The North Peace Teachers' Convention was attended by teachers of the Fairview and Peace River School Divisions.

Members of the staff were almost fully employed at the school, but on many occasions a representative of the school spoke to gatherings throughout the area. The instructor in Farm Mechanics conducted several farm machinery field days for the Extension Branch and several staff members officiated as judges at local fairs.

Visitors and Special Speakers

Visitors and guest speakers who inspected the school and met the students during the fall term included Mr. M. L. Silcox, Dairy Branch, and Mr. Donald Cameron, Director of Extension, University of Alberta.

Formal opening ceremonies for the school were held on November 6th. Representatives of the Provincial Government, University, District Agriculturists, School Superintendents, Board of Agricultural Education, Association of Municipal Districts, Federal Government, Clergy, Board of Trade, farm organizations and press and radio combined their efforts to make the occasion a memorable one. The Honourable D. A. Ure delivered an address on "The Alberta Schools of Agriculture". The inaugural address was given by the Honourable E. C. Manning, Premier, Province of Alberta. More than 600 visitors were on hand to witness the formal opening of the school.

Scholarships

Winners of scholarships (tenable in the first year) were named as follows:

The Alberta Surplus Wheat Board Money Trust Scholarships (\$75.00 each)—In Agriculture: William Clegg, Gage; James McNab, Beaverlodge. In Home Economics: Marion Burgess, Beaverlodge.

The Alberta Women's Institute Scholarship, Branch No. 1 (\$100.00): Edith Morrison, Worsley.

Grounds and Buildings

Some planting of the grounds was done in the spring of 1951. As levelling of the grounds was not completed in time, it was necessary to delay the seeding of lawns and setting out of shrubbery until 1952. Considerable nursery stock has been assembled for this purpose and will be planted next spring.

The Farm

Early sown crops did not yield as well in this area in 1951 as those sown somewhat later, which resulted in grain yields being rather light. There were 944 bushels of Ajax oats and 657 bushels of Montcalm barley threshed, and 25 tons of oat greenfeed were harvested.

The first crop of hay from a field seeded in 1950 was also rather light, as it was cut very early to control weeds. This field was used later in the summer as pasture. Another 35 acres were seeded down to a mixture of alfalfa, brome and creeping red fescue.

About 40 acres of fall rye and 25 acres of oats were used as spring and summer pasture. The yield of forage was not high and pasture was rather short in the late summer.

The Aberdeen-Angus cattle wintered well and stayed in good condition through the summer. All of the 1950 calf crop was sold as breeding stock by early June. The local demand for bulls was quite good, but the heifers moved rather slowly, and four were sold outside the Peace River area.

In early October, 10 Holstein females and a bull, 15 Yorkshire hogs and 2 Percheron horses were brought from the Olds farm. In November a young Yorkshire boar was obtained for the farm herd.

The shortage of pasture and early snow made it necessary to begin winter feeding quite early. All stock are doing well.

Farm sales during 1951 were as follows: Milk, \$478.80; other farm sales, \$3,805.50; total, \$4,284.30.

The 1951-52 Term

Registration for the regular 1951-52 term opened on October 23rd. Enrolment was as follows: First year: Agriculture 36, Home Economics 15.

All fully qualified applicants to these classes were admitted. For the first year course in agriculture two applications were refused because the applicants were under sixteen years of age. Fifteen applications for the first year course in agriculture were withdrawn owing to poor harvesting conditions or illness in the family. Six applications for the first year course in home economics were withdrawn due to poor crop prospects. Three applicants for the two-in-one course in home economics and two for the two-in-one course in agriculture were referred to Vermilion, since neither course was offered at Fairview in the first year of operation.

Instructional and administrative staff were as follows: J. E. Hawker, B.A., B.Sc., Principal; D. R. Macpherson, B.Sc., Instructor in Animal Husbandry, Dairying and Poultry and Farm Manager; J. T. Lancaster, B.Sc., Instructor in Field Husbandry and Farm Management; V. W. Osbaldeston, B.Sc., Instructor in Farm Motors and Farm Machinery; D. A. Russell, B.Sc., Instructor in Horticulture, Botany and Physical Training, and Dean of Men's Residence; C. E. Paquin, B.Sc., Instructor in General Science; W. R. Knight, Instructor in Farm Buildings and Metalwork; H. F. Irwin, Instructor in English, Mathematics, Community Organization and Entomology; Miss L. E. Engberg, B.Sc., Dietitian and Instructress in Nutrition and Cooking; Miss E. M. Sanford, B.Sc., Instructress in Sewing, Clothing Selection, Laundering, Handicrafts and Home Management; Mrs. L. A. McDougall, R.N., Instructress in Home Nursing, School Nurse and Dean of Women's Residence; W. H. McKenzie, Accountant; H. T. Stelfox, Stenographer; G. A. Ogston, Assistant Instructor in Animal Husbandry and Farm Foreman.

Report of Junior Activities and Youth Training Branch

G. S. BLACK, Supervisor, Junior Activities and Youth Training

Margaret K. Fraser, Supervisor, Girls' Club Work

C. L. Usher, Assistant Supervisor, Junior Activities

General

Another progressive year can be reported in junior activities; the membership has continued to increase, the number of projects increased and the scope of club work extended.

The Provincial Club Leaders' Conference was again held at the School of Agriculture at Olds and increased attendance noted. Junior Club Week at both the Olds and Vermilion schools was considered by many as the best week we have held. Montana 4-H Club members again visited our school, and four members of Junior Clubs were in turn present at the 4-H Club Congress in Bozeman, Montana. This international trip continues to be of special interest to all club members. The demand for club camps continues and where held this year were well attended.

Alberta's Junior Club representatives at the National Contests again did exceptionally well, Dominion championships being won in the beef, clothing and food projects. For the second time in succession a junior grain club member was awarded the world's wheat championship at the Royal Winter Fair. Another club member was successful in winning the grand championship in barley at the International Grain and Hay Show in Chicago.

Live stock club members have had a successful year in both the beef and dairy projects. In the beef section more meetings were held and greater interest shown, and the price received at the sale of their live stock reached an all-time high. Dairy clubs have not increased in number due to our inability to secure sufficient calves. On the other hand, considerable interest is being shown in poultry clubs which are now increasing rapidly.

Mr. C. L. Usher proved a very capable assistant and has rendered valuable service. Miss Margaret K. Fraser was assisted in her work for a portion of the year by Miss Peggy Cross. Members of the staff of the Schools of Agriculture were again used for part time work. Miss O'Callaghan and Messrs. Folk, Pettem, Cooper and Molsberry assisted in club work during the summer months.

The following is an analysis of each project:

ALBERTA'S JUNIOR CLUBS, 1951		
	No. of Clubs	Membership
Beef	89	1,609
Dairy	23	389
Swine	2	26
Poultry	4	70
Wheat	70	1,173
Oats	40	640
Barley	27	419
Forage	12	174
Potato	2	34
Clothing	87	1,187
Gardening	52	645
Foods	12	129
Home Decorating	4	53
Etiquette	2	27
TOTAL	426	6,575

Leaders' Courses

Two provincial and one regional leaders' courses were held. The volunteer club leaders of the garden clubs attended a course at the Olds School of Agriculture in April just prior to the start of their work; club leaders in the other projects attending the July course at the same school. At the latter course, 125 were present. The interest in these courses continues to grow and there is a keen demand that they be continued. Credit is given to the various sponsors for their financial aid in holding such courses. The regional course conducted at Camrose early in December was in reality a try-out where twenty-five members discussed club programmes and policies.

Junior Club Week

At Junior Club Week, held at the Schools of Agriculture of Olds and Vermilion, 195 members of farm clubs and 125 members of home clubs attended. Club members eligible to attend are the efficiency winners from the previous year in junior club work. The week's programme was revised, and reports indicate a most successful week. At the conclusion, six scholarships were awarded. These are provided from the Surplus Wheat Board Monies Trust, and were won as follows:

Olds:

Home Economics: Jean Syrnyk, Hines Creek; Wanda Waddy, Alix.

Grain: Philip Rapson, Winnifred; Allan Dalton, Vauxhall.

Live Stock: John Shepherd, Erskine; Vernon Peterson, Olds.

Vermilion:

Home Economics: Valeria Liss, Sangudo; Lois Solberg, Ryley.

Grain: Jim McNab, Beaverlodge; Wm. Clegg, Gage.

Live Stock: John Boe, Mannville; Park Letts, Westlock.

International Trips

This is the fifth consecutive year in which four club members were selected to represent Alberta Junior Clubs at the 4-H Club Congress in Bozeman, Montana. This has become an international event, whereby members from the 4-H Clubs of Montana are guests of the Department of Agriculture attending Junior Club Week at either Olds or Vermilion. Alberta members are selected on the basis of their club achievements, age, personality and speaking ability. They were: Marie Scheidigger, Ohaton; Jean Syrnyk, Hines Creek; Ronald Geoglein, Tofield; Daunavan J. Buyer, Carbon.

The Alberta delegates were accompanied by Mr. J. L. Anderson, District Agriculturist at Medicine Hat, and Miss Bertha Andreassen, District Home Economist at Westlock. This trip is valued very highly by club members and makes for better understanding and a wider knowledge and interest in club work, and we believe it does much for the young people of both Alberta and Montana.

Judging Competitions

In order to determine the team in each project which shall represent Alberta in the National Contests, provincial judging contests are held in the latter part of the summer. This year they were conducted at the Olds School on July 30th, 31st and August 1st. A larger number of contestants were present than at previous

contests. Each District Agriculturist and Home Economist is allowed to enter one team in each project from his or her district. These provincial final contests this year determined the winners in five projects, namely, clothing, food, grain, beef and dairy. In addition, two new projects were included, namely, that of gardening and poultry. For the first time Alberta sent seven teams to the National Contests at the Royal Winter Fair. The following teams were successful in winning the Provincial Competitions:

Clothing—Joan Krupa and Alice Rollof, South Edmonton.

Food—Dana Morkeberg and Margery Johannson, Markerville.

Garden—Margery Banta, Crossfield, and Joanne Copley, Airdrie.

Grain—Lawrence Wagner and Ronald J. Cole, Clive.

Beef—Gordon Johnson, Eagle Hill, and Vernon Peterson, Olds.

Dairy—Ken Morris and Gwen Clarke, Didsbury.

Poultry—Denis Reist and Douglas Shoening, Wetaskiwin.

The junior club teams that stood second in each project are entitled to attend the School of Agriculture during Club Week the following summer, and were as follows:

Clothing—Jeanne and Joanne Finlayson, Munson.

Food—Jean Coutts and Jessie Wagner, Nanton.

Garden—Doreen Youngstrom and Jean Malcolm, Markerville.

Beef—Keith and Kenneth Svenson, Markerville.

Dairy—Bill Richards and Ludy Ahrens, Red Deer.

Poultry—Bruce McDonald, Manville, and Mildred Scarfe, Vermilion.

National Judging Competitions

Nine provinces entered 118 members in the nine projects at the National Contests of the Canadian Council on Boys' and Girls' Club Work at this year's Royal Winter Fair. Alberta made an excellent showing, securing three firsts, one second, one third, and two sixths. The following are the placings of our team:

Clothing—First: Joan Krupa and Alice Rollof, South Edmonton.

Food—First: Dana Morkeberg and Margery Johannson, Markerville.

Beef—First: Gordon Johnson, Eagle Hill, and Vernon Peterson, Olds.

Garden—Second: Joanne Copley, Airdrie, and Margery Banta, Crossfield.

Grain—Third: Lawrence Wagner and Ronald J. Cole, Clive.

Dairy—Sixth: Ken Morris and Gwen Clarke, Didsbury.

Poultry—Sixth: Denis Reist and Douglas Schoening, Wetaskiwin.

High individual honors were won by Joan Krupa of the White-mud Clothing Club and Dana Morkeberg of the Markerville Food Club.

Camps, Rallies and Short Courses

These events continue to become more and more important phases in the club programme. Practically all of our junior clubs include some of these events in their year's programme. Many clubs visit outstanding farms in their own districts, others visit Schools of Agriculture, experimental farms or the University. Some visit our two main cities and others are able to attend club camps.

In the Class "A" Fairs, the Edmonton Exhibition have a junior building and have a supervised camp during fair week. In turn, they have a club rally day at which club members from the territory supervised by the Edmonton District Agriculturists and Home Economist attend. With the exception of Red Deer, the "B" Class Fairs have continued to have a junior camp for a portion of their fair. We note increased interest in the type of supervised camp which can be held adjoining a lake and where there are no counter-attractions which are part of agricultural fairs. Outlying clubs are keenly interested in attending these camps, and apparently derive much benefit not only from the educational but from the organized sport activities.

Tiller Match Judging Competition

The Edmonton and District Agricultural Society again sponsored a Tilling and Plowing Match. The number of contestants entered this year, however, was lower than anticipated, and this may be due to the fact that rainy weather necessitated the postponement of the latter part of the match. Many feel that the training of these young men in judging this type of contest is a very good method to insure proper tillage practices on their farms, and in turn may provide judges for future years.

Radio

For the greater part of the year a fifteen minute club programme is given over C.K.U.A. on the "Farm and Home" broadcast. During the early fall this was discontinued, and plans are being made to have a junior club broadcast weekly over the Canadian Broadcasting Corporation, who are generously allotting fifteen minutes of their farm broadcast for junior club work. The inclusion of many club members in these junior farm broadcasts should do much to encourage better speaking and create real club interest in this type of radio work.

Junior Club Uniforms

The maroon and white uniform for the Alberta Farm Club members continues to create favourable comments. New clubs continue to purchase these uniforms, and at many events the bulk of the members are wearing them. They are very popular with the members.

Junior Club Bulletin

A junior club bulletin is issued quarterly and forwarded to each club member. This bulletin informs the members of club activities across the Province, and is meeting with a grand response. An attempt is being made to edit a bulletin of high standard and well illustrated, and the comments received on the quality of the bulletins issued so far have been very favourable. It is distinctly a Junior Club effort, and the various clubs continue to report events which otherwise would not reach the eye. Mr. Usher has assumed the responsibility of editing this magazine in co-operation with Miss Fraser. For the past year we are glad to report a good supply of better material, and we hope we shall be able to continue this agricultural club bulletin.

ALBERTA JUNIOR CLUBS (1941 to 1951 inclusive)

Project	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
Swine	22	21	13	12	7	1	3	2	1	2	2
Beef	27	38	37	42	47	56	73	88	81	83	89
Dairy	9	10	10	11	15	14	18	25	25	26	23
Poultry	..	6	8	..	..	2	3	1	1	2	4
Wheat	54	40	23	19	21	34	42	38	50	66	70
Oats	21	22	30	26	19	24	17	22	26	29	40
Barley	8	33	30	26	15	16	26	28	22	20	27
Potato	2	..	3	3	2	8	2	..	1	1	2
Forage	..	..	13	19	14	10	15	13	11	16	12
Garden	10	8	8	11	20	27	30	37	39	47	52
Clothing	25	55	41	44	60	61	52	71	74	72	87
Foods	..	5	2	1	2	3	4	2	8	16	12
Home Decoration	..	..	..	11	5	2	4	..	4	4	4
Etiquette	..	..	..	..	..	..	..	..	..	..	2

Agricultural Projects**Beef Calf Clubs**

These clubs continue to be the most popular of the agricultural clubs. It is reasonable to expect that the interest will remain high as enthusiastic members continue to receive two to three cents above market quotations. Lessons on feeding, care and management, plus personal visits from District Agriculturists, are part of the club programme. Community interest in many of these projects is of such an exceptionally high order that they have become such major events that public address systems are necessary in speaking to the large crowds that attend.

Many clubs hold their achievement day in their home district, and the calves are taken to a central point where other clubs combine to hold a sale. The question of securing sufficient judges continues to be a problem. We are very thankful for the continued assistance of members of the Live Stock Branch, Schools of Agriculture, District Agriculturists and private individuals who have contributed their part in this work.

Despite high prices and the financial returns received by members in most cases, it is gratifying to note that members are attending their meetings and that the educational part of the programme is not being neglected.

Dairy Calf Clubs

This type of live stock club of necessity can only be successfully organized in districts where dairying is an important type of agriculture. Alas, for years it has not been possible to secure a sufficient supply of dairy calves. Whereas in 1942 dairy calves cost in the neighbourhood of five to six dollars, it has been necessary to increase the price to fifty dollars for calves. There is a possibility that next year will see sufficient good heifer calves being offered us to allow the forming of many more Junior Dairy Calf Clubs.

For the fifth consecutive year the Provincial Junior Dairy Show has been held in conjunction with the Red Deer Exhibition. The Alberta Dairymen's Association again have assisted by paying a large portion of the cost of transporting the club champions to the fair. In former years the Red Deer Exhibition invited the accompanying members to be their guests at their junior club camp. However, due to lack of accommodation it was necessary this year to discontinue the camp, and the Provincial Junior Dairy Show was therefore strictly a one-day affair. George Gibb Jr. of South Edmonton and Robert Clarke of Didsbury won the calf and yearling championships respectively, and were each presented with trophies by the Minister of Agriculture at the conclusion of this event.

The Ryley Junior Dairy Club was judged to be the most efficient dairy calf club for 1950, and were awarded a plaque donated by the Kiwanis Society of South Edmonton on this occasion.

The question of additional scholarships awarded to Junior Dairy Calf Club members is being considered, and such offerings we feel might do much to encourage members who do not benefit from the annual sale of their live stock as beef calf club members do.

Poultry Club

The interest in poultry clubs is rapidly increasing. During the past year three additional clubs were formed and the ground work laid for the formation of several new clubs in 1952. The quality of the exhibits shown on achievement day was in all cases of excellent quality, and many favourable comments were heard. The newly organized clubs were formed in the Falun, Wetaskiwin and Andrew areas. Attendance at club meetings was consistently good.

Swine Club

The interest in swine clubs remains at an all time low. It seems impossible to arouse interest enough in this project to increase the number of swine clubs. There is no question that the glamour attached to other projects has at the present time more appeal to farm youth.

Crop Clubs

Junior Crop Clubs again increased in numbers, and despite the adverse weather had a very successful year.

The Provincial Plot Competition has become a very important event with considerably more enthusiasm and interest being shown in each of the projects as a result of it. In this competition each District Agriculturist selected the winning plot in each project in his area and these were then judged by Mr. L. Usher of this Branch. The final awards were as follows:

Wheat—Howard Roppel, Rockyford.

Oats—Ernest Dupuis, Ranfurly.

Barley—Pearl and Norman Bieber, Homeglen.

Suitable awards were made by the Department of Agriculture and sponsoring organizations to the winning members at special meetings.

Joint achievement days at which two to eight grain clubs exhibit are becoming very popular. Thematic displays on Saving the Soil were shown at a number of fairs and were favourably commented upon.

Seed distributed to grain club members amounted to: Wheat, 2,384 bushels; oats, 2,758 bushels; barley, 1,284 bushels; and forage, 1,797 pounds.

The Provincial Junior Seed Fair was the largest ever held, and junior exhibits played the major role.

Royal Winter Fair

Howard Roppel of the Rockyford Junior Wheat Club won first in the junior section, and went on to win the world's wheat championship. Harry V. Holt of the Peace River Junior Barley Club won reserve championship at the Royal and the barley championship at the International Hay and Grain Show in Chicago.

Alberta junior exhibitors won the first twelve places in the wheat class for juniors as well as first in early and late oats.

HOME PROJECTS

The Girls' Club programme is again providing instruction in homemaking to a large number of girls in rural areas of Alberta. There were 140 clubs carrying projects in 1951 with a membership of 1,784.

The interest in this work is being maintained, and the standard of work being done by the girls is improving. This year many of the club leaders and assistant leaders were former club members and many are graduates of one of the Schools of Agriculture.

Projects

Twelve projects are now outlined: 3 in Clothing, 3 in Foods, 3 in Gardening, 2 in Home Decoration, and 1 in Etiquette. The Clothing projects are still proving very popular with 78 clubs completing projects. A third project has been added to the Food series and is being well used. The Home Decoration projects are for more advanced clubs and so are not so widely carried. The Garden projects are sponsored jointly by the Alberta Wheat Pool and this Department. Forty-seven clubs took the Garden project this year.

Besides the instruction available from the project books, 370 lectures in Home Economics and club work were given to the club members by the District Home Economists and 75 by the Girls' Club supervisor. Some joint achievement days were held by adjoining clubs. There were 128 achievement days held, with 6,883 people attending.

A great deal of assistance in preparing and carrying out the projects in Food and Home Decorating is given by the specialists in this field, Miss Lewis and Miss Judson. This is much value to the club members and is greatly appreciated.

Awards

All garden club plots were judged by the District Home Economists with assistance from the District Agriculturists or Alberta Wheat Pool field men. The Alberta Wheat Pool awarded 47 prizes for the best garden plots in each club, and presented 14 clubs with awards for obtaining the highest standing in each District Home Economists district. These last were in the form of a book to be added to the club library.

The T. Eaton Company awarded prizes to the member of each club carrying a food, clothing or home decoration project, who placed highest on the basis of club work and project work. Seventy-six awards were made in clothing and home decoration and 12 in foods.

The Alberta Wheat Pool scholarship to University was increased substantially this year. The first year scholarship was increased to \$200.00 and a similar scholarship awarded to a second year girl—the award being made on the same basis but open to all eligible in the second year. Miss Cecile LaPlante of Vimy won the second year scholarship and Miss Dorothy Olson was awarded the first year scholarship.

Four scholarships were awarded to girls attending club weeks at the Schools of Agriculture. These went to: 1, Valeria Liss, Sangudo; 2, Lois Solberg Ryley; 3, Wanda Waddy, Alix; 4, Jean Syrnyk, Hines Creek.

Other Activities

This year again a Garden Club Leaders Course was held in April to train leaders for this work. A three day Sewing Course was offered to leaders of clubs carrying clothing projects. Thirty-six leaders attended this. More were interested but no instruction or accommodation could be provided for an increased number. The regular Leaders Course was also well attended.

In addition to this, 22 leaders meetings were held in the various districts this year. Many of these were attended by the District Home Economists and the Girls' Club supervisor, and others only by the District Home Economists. Three were joint meetings with the Farm Clubs as well. This type of meeting has proven a great asset, as it helps to train the leaders and makes for better work done by the clubs and less time spent on them by the District Home Economists.

Teams were sent to National Club Week in Toronto representing food, clothing and garden projects. This is the first year Alberta has been represented in the garden project.

Food—Dana Morkeberg, Marjorie Johannson, Markerville, 1st.

Clothing—Joan Krupa, Alice Rollof, South Edmonton, 1st.

Gardening—Marjorie Banta, Joanne Copley, Crossfield, 2nd.

Dana Morkeberg and Joan Krupa placed first as individual standing in their respective competitions.

Besides this Dana Morkeberg, who was the Alberta representative on the Club Council at National Club Week, was elected president of this Council. This is the first time that a girl has had this honour at National Club Week.

The girls who attended National Club Week this year gave their demonstration and/or talks on club work and their trip to National Club Week thirty-one times. These were mainly to new audiences to interest them in the work and to assist in the organizing of new clubs.

There has been a great increase in the number of events for club members this year. Twelve rallies, 52 tours and 8 short courses were held. Also a number of club members attended the four fair camps. These events have proven very useful in creating club interest and giving instruction to assist in project work. Events of this type were attended by 4,106 people, exclusive of achievement days.

This year, 118 former club members were given assistance in homemaking, educational and vocational problems.

Aims

The big problem in club work is to obtain, train and maintain good leaders. This problem is being met in the following ways:

1. Leaders courses on a Provincial regional and district basis. It is hoped that more regional and district courses can be held next year.

2. Camps and short courses where older club members can be given instruction in leadership and project work. The camps are proving popular, and it is hoped that more can be held next year.

3. Junior leaders—a system of junior leaders is being started with the view to training future leaders. These are members over 16 years of age who have completed at least 3 projects and who have been efficiency winners. They are required to carry a club project, but also are given credit for doing leadership work with the younger club members in some on field of their work. This is an experiment, but seems to be satisfactory and popular.

The aim of Girls' Club work is to encourage rural girls to adopt up-to-date methods in homemaking, to interest them in improving their standard of work, and to encourage them to take part in community activities. Displays at achievement days, reports of District Home Economists, results of judging competitions, and the number of girls attending Schools of Agriculture and University indicate that to some measure at least these aims are being met.

In addition to this the following work was done by the Girls' Club Supervisor: Meetings attended, 75; short courses, etc., 23; fair camps, 3; radio talks, 12; letters written, 1,607.

The Short Courses included 10 days spent at Farm Young Peoples' Week sponsored by the Department of Extension, University of Alberta, acting as dean of women and giving instruction to the girls.

Report of the Board of Trustees of the Surplus Wheat Board Received by the Government of the Province of Alberta from 1916-1919 Canadian Wheat Board

Members:

The HONOURABLE D. A. URE, Chairman

Richard Ballhorn, Farmer, Wetaskiwin

Arthur Pierson, Vice-President and Treasurer of the Independent Grain Company, Calgary.

O. S. Longman, Deputy Minister, Department of Agriculture

T. W. Whelan, Secretary and Accountant, Department of Agriculture

During the year two members were added to the Board: O. S. Longman, Deputy Minister, and T. H. Whelan, Secretary and Accountant, both of whom are staff members of the Department of Agriculture.

A statement showing receipts and expenditures is attached, also a statement of assets and liabilities.

During the year receipts were \$3,081.79, all of which was in payment of interest on investments.

Payments for the year amounted to \$1,390.70, and were made for the following: Scholarships awarded, \$1,250.00; Board expenses, \$140.70.

Investments

There were no changes in the investments made by the Board during the year. The investments as shown on the attached balance sheet at December 31st, 1951, consist of:

(a) Province of New Brunswick ..	3½% Debentures	\$45,000.00
(b) Province of British Columbia	3 % Debentures	45,000.00
(c) City of Calgary	3½% Debentures	4,000.00
		\$94,000.00

Meetings

A meeting of members of the Board was held on May 7th, 1951, at which time the schedule of scholarships was reviewed. The meeting approved a new schedule of scholarships, provision being made for the granting of scholarships to students at the School of Agriculture, Fairview, available in 1952. The new schedule makes available annually scholarships totalling \$2,475.00. A copy of the new schedule marked "Exhibit A" is attached.

General

Since the Board instituted the policy of providing scholarships, a total of 257 scholarships valued at \$21,291.56 have been awarded and paid.

The members of the Board have continued the policy of conserving the principal remaining in the Trust Fund. All expenditures made are from income received from investments.

SURPLUS WHEAT BOARD MONEY TRUST

Schedule of Scholarships approved at Meeting of the Board Monday, May 7th, 1951	
From Clubs to School of Agriculture at each Club Week: 2 crops, 2 livestock, 2 home—18 at \$75.00	\$1,350.00
From Schools to University at each School, 1 in Agriculture or Home Economics—3 at \$100.00	300.00
To any young person to attend School of Agriculture—8 at \$75.00	600.00
To School of Agriculture from Young People's Farm Week at University: 1 boy and 1 girl—2 at \$75.00	150.00
To School of Agriculture from Women's Institute Girls' Club Week at Olds— 1 at \$75.00	75.00
	<u>\$2,475.00</u>

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

BALANCE SHEET AS AT DECEMBER 31, 1951

ASSETS			
Investments:		Par Value	Bond Value
Province of New Brunswick 3½% due April 1, 1967		\$45,000.00	\$44,794.86
Province of British Columbia 3% due Dec. 15, 1969		45,000.00	44,584.62
City of Calgary 3½% due July 1, 1968		4,000.00	3,991.30
		<u>\$94,000.00</u>	<u>\$93,370.78</u>
Cash in Bank			3,116.54
Accrued Interest			526.08
			<u>\$97,013.40</u>
LIABILITIES			
Trust Fund December 31, 1950			\$95,284.13
Add: Surplus for year 1951			1,729.27
Trust Fund December 31, 1951			<u>\$97,013.40</u>

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

Statement of Receipts and Payments for the Year ended December 31, 1951

Bank balance December 31, 1950		\$1,425.45
Interest on 45,000 Prov. of N.B. Debentures	\$1,575.00	
Interest on 45,000 Prov. of B.C. Debentures	1,350.00	
Interest on 4,000 City of Calgary Debentures	140.00	
Interest on Bank Balances	16.79	
		<u>3,081.79</u>
		\$4,507.24
Deduct: Payments:		
University of Alberta Scholarships	\$ 200.00	
Olds School and Farm	450.00	
Vermilion School and Farm	375.00	
Fairview School and Farm	225.00	
P. W. Johnson—Honorarium	100.00	
Richard Ballhorn—Meeting expenses	10.00	
Arthur Pierson—Meeting expenses	20.00	
Alberta Government Telephones	1.70	
Provincial Treasurer—Reimbursement of express charges re:		
Province of B.C. Debentures	9.00	
		<u>1,390.70</u>
Bank Balance December 31, 1951		<u>\$3,116.54</u>

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

ACCRUED INTEREST AS AT DECEMBER 31, 1951

Province of New Brunswick Debentures:		
\$45,000, 3%, April 1, 1967, 3 months		\$393.75
Province of British Columbia Debentures:		
\$45,000, 3%, December 15, 1969, ½ month		56.25
City of Calgary Debentures:		
\$4,000, 3½%, July 1, 1968, 6 months		70.00
Bank Balance: \$2,441.54		1.55
		<u>\$521.55</u>
Add: Accrued on Discount:		
Accrued on Prov. of New Brunswick Debentures		3.31
Accrued on Prov. of British Columbia Debentures		.96
Accrued on City of Calgary Debentures		.26
Net earnings accrued to December 31, 1951		<u>\$526.08</u>

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